

A PHI Company

Legal Services Group

701 Ninth Street, NW
Suite 1100, 10th Floor
Washington, DC 20068
(202) 872-2617
(202) 557-0544 – cell
(302) 429-3061 – King Street

Anthony C. Wilson
Associate General Counsel

Potomac Electric Power Co.
Delmarva Power
Atlantic City Electric

October 3, 2006

VIA HAND DELIVERY

Ms. Karen J. Nickerson
Delaware Public Service Commission
861 Silver Lake Boulevard
Cannon Building, Suite 100
Dover, DE 19904

RE: Docket No. 06-241, In The Matter off Integrated Resource Planning for the
Provision of Standard Offer Service by Delmarva Power & Light

Dear Ms. Nickerson:

On behalf of Delmarva Power & Light Company, attached is an original and 14 copies of the Company's Comments on the Independent Consultant's Report filed September 18, 2006, in the above referenced matter. Copies of this filing have been provided to Staff, the Office of Management and Budget, the Controller General, the Energy Office, and, the service list for this docket.

Should you have any questions please feel free to contact Mark W. Finrock, at 302 429-3777, William R. Moore, Jr. at 302 454-4542 or the undersigned counsel at 302 429-3061.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Anthony C. Wilson", written over a horizontal line.

Anthony C. Wilson
Associate General Counsel
On behalf of Delmarva Power

cc: Dkt No. 06-241, Service List
Bert Scogiletti - Office of Management and Budgets
Charlie Smisson - Energy Office
Jennifer Cohan - Controller General
Bruce Burcat, Connie McDowell, Janis Dillard
& James McC. Geddes - Staff
G. Arthur Padmore - Advocate

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF DELAWARE

**IN THE MATTER OF INTEGRATED RESOURCE)
PLANNING FOR THE PROVISION OF)
STANDARD OFFER SUPPLY SERVICE BY)
DELMARVA POWER & LIGHT COMPANY)
UNDER 26 DEL. C. § 1007(c) & (d): REVIEW)
AND APPROVAL OF THE REQUEST FOR)
PROPOSALS FOR THE CONSTRUCTION OF)
NEW GENERATION RESOURCES UNDER 26)
DEL. C. § 1007(d) (OPENED JULY 25, 2006))**

PSC DOCKET NO. 06-241

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
AS FILED SEPTEMBER 18, 2006**

Filed October 3, 2006

**Delmarva Power & Light Company
800 King Street,
P.O. Box 231
Wilmington, Delaware 19899**

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE**

**IN THE MATTER OF INTEGRATED RESOURCE)
PLANNING FOR THE PROVISION OF)
STANDARD OFFER SUPPLY SERVICE BY)
DELMARVA POWER & LIGHT COMPANY)
UNDER 26 DEL. C. § 1007(c) & (d): REVIEW) PSC DOCKET NO. 06-241
AND APPROVAL OF THE REQUEST FOR)
PROPOSALS FOR THE CONSTRUCTION OF)
NEW GENERATION RESOURCES UNDER 26)
DEL. C. § 1007(d) (OPENED JULY 25, 2006))**

**COMMENTS OF THE
DELMARVA POWER & LIGHT COMPANY
TO THE INDEPENDENT CONSULTANT'S REPORT
DATED SEPTEMBER 18, 2006**

I. EXECUTIVE SUMMARY

On behalf of Delmarva Power & Light Company ("Delmarva Power" or "Company") enclosed are the Company's Comments filed in response to the Independent Consultant's Report ("IC's Report"), issued September 18, 2006, and Request for Proposal and Term Sheet ("Revised RFP") mark up, issued September 27, 2006, in the above-referenced matter ("Delmarva Power's Comments on the IC's Report"). Due to the timing of the issuance of the Revised RFP, the comments focus on the IC's Report. Comments on the Term Sheet, to the extent necessary, will be filed separately.

1. Delmarva Power Supports the RFP Concept and Process

At the outset, Delmarva Power wishes to emphasize that it supports the RFP concept and does not oppose the RFP process as established by House Bill No. 6, as codified to Title 26 of the Delaware Code. In fact, the Company already utilizes an RFP process to procure energy supplies for Standard Offer Service ("SOS") customers pursuant to various Delaware Public Service Commission ("Commission" or "DPSC") orders issued in Docket No. 04-391. However, as more fully set forth in the Comments to the IC's Report attached hereto, Delmarva Power identifies several areas of concern with the Revised RFP and the IC's Report. Among other things, the IC's Report and Revised RFP, as proposed:

- fail to adhere to the legislative mandate of House Bill No. 6 that the Integrated Resources Planning process ("IRP Process"), which includes the RFP, must meet customer needs, lower costs to customers, and consider all options within an integrated framework;

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

- fail to appropriately tie MWs to be procured via the RFP to SOS customer load requirements;
- fail to recognize that Delmarva's current senior unsecured ratings of BBB-/Baa2 (S&P/Moody's) and tangible net worth of approximately \$619 Million provide an inadequate credit cushion to withstand significant additional risk without detrimental effects on the Company and its customers;¹
- fail to preserve the complex relationship between bid block size, corporate structure, security requirements, and the risk of default borne by Delaware customers;
- fail to provide for a diversity of bids and diversity of suppliers to serve SOS customers and instead encourages mega-block bidding in excess of requirements; and,
- fail to recognize that the RFP process is an integral part of the IRP Process that should not be arbitrarily segmented.

The Company is concerned that the IC's Report and the Revised RFP, if adopted, would shift the financial and economic burdens from the suppliers to all of Delmarva's electric customers by advocating high volume/high risk long-term contracts. In addition, as set forth herein, the posted collateral from bidders is based on Delmarva's best estimate and may not be sufficient to completely cover exposure thereby leading to under-collateralization and higher financial and credit risks. This risk is compounded with below-investment grade counterparties. There are many examples of electric customers in other jurisdictions that have been forced to absorb the costs of long-term contracts due to miscalculations, forecast error, or unanticipated market events in non-utility generator contracts, PURPA contracts, New York six cents IPP contracts, and energy supplier bankruptcies. For these reasons, the Company strongly objects to portions of the IC's Report and Revised RFP. The Company, while supporting the mandate of House Bill No. 6, seeks to carry out the mandate without unnecessarily exposing the SOS customers, distribution customers or the Company itself to the aforementioned risks.

¹ Since Delmarva is already on the low end of investment grade credit rating scale, it has no credit flexibility to withstand a default from a PPA of the tenor and size proposed by the IC's Report without serious, long term harm to its ability to raise capital on reasonable terms. If the Company were downgraded to below investment grade status ('junk' bonds), the added costs to all customers would further increase rates and impair the Company's ability to raise capital in tight markets.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

2. The IC's Report Proposed Changes to Security Requirements are Unacceptable to the Company

The IC's Report's proposed changes to the security requirements for the RFP contract are unacceptable to the Company, particularly those allowing development period security to be in the form of a parent guaranty rather than a letter of credit and the limiting of development period security to \$100/kW of maximum capacity. The Company, in preparing the term sheet for the PPA, proposed the letter of credit mechanism in lieu of a guaranty or other collateral because a letter of credit arrangement protects customers and the Company against the costs of non-performance in the event of a bankruptcy or other default. The IC's Report suggested that the credit and security requirements should be weakened. The IC's Report largely restated many comments of generators, such as NRG, who may be potential bidders in the RFP process. For example, on page 18 of the IC's Report, it states: "There is no evidence, according to NRG, that contracting with a project level entity will expose customers to additional risks of default on the PPA or a bankruptcy of the entity."² These comments are similar to the arguments made in the past in connection with PURPA contracts, New York six cents IPP contracts, fixed price contracts, and contracts in the late 1990s and early 2000s regarding the purchase of generating assets.

History has shown that weak credit and security requirements expose utilities and their customers to massive damages. In recent years, Enron, Calpine, USGen, Mirant, NEGOT and NRG have each filed for bankruptcy protection. In many of these cases, in addition to the project-level entity, the parent/guarantor also filed for bankruptcy protection. Thus, a parent guaranty does not provide the same protections as a letter of credit and is largely irrelevant if the parent files for bankruptcy. The Potomac Electric Power Company ("PEPCO"), an operating company in the Pepco Holding Co. system, of which Delmarva Power is also a member, has first-hand experience dealing with these credit, security and bankruptcy risks. Specifically, in 2000, Mirant purchased Pepco's generating assets and assumed various power purchase obligations. It is our understanding that Pepco asked for protection over and above a parent guaranty, but ultimately only received the limited security provided by such a guaranty. Instead, Pepco was told it was enough to rely on a parent guaranty. Mirant subsequently filed for bankruptcy.

Mirant later argued to Federal Energy Regulatory Commission ("FERC") that Pepco should have and failed to protect itself with a letter of credit or other security. In response, FERC stated: "The decision of Pepco to enter into the Back-to-Back Agreement is best viewed as a matter of business judgment where the risk of non-performance was a factor to be considered, among many other factors, in deciding whether to sell facilities at certain prices. Pepco could have negotiated for greater security of its revenues, but did not and now finds itself an unsecured creditor under an executory contract with a bankrupt estate."³ FERC went on to state that "the

² See also IC's Report at pp. 18-19 and 48-53 (referring to comments from SCS Energy, Bluewater Wind and NRG).

³ Order Authorizing Disposition of Jurisdictional Facilities ¶ 38, FERC Docket No. EC05-58-000 (June 17, 2005).

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

Commission is not convinced that it should intercede to enhance the likelihood that Pepco will receive the contract revenues from Mirant."⁴ In light of this history and precedent, it is imperative that Delmarva's credit and security requirements not be compromised in the manner proposed in the IC's Report.

3. Significant Changes Must be Made to IC's Report and Proposed RFP

If the security requirements are weakened, the Company recommends that significant changes be made to the RFP (including a reduction in the proposed 200 MW maximum size), term sheet and PPA to provide substitute (although poorer) protections to Delmarva. These provisions may not be necessary if Delmarva is fully secured by a letter of credit, as was initially proposed. These provisions cannot provide the same level of security to Delmarva as a letter of credit but they could provide some protection and improve Delmarva's position in the context of a bankruptcy or default by the successful RFP bidder.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT**

II. OVERVIEW

Overall, Delmarva Power accepts some of the IC's Report recommendations, while not others, and the Company has suggested modifications in other cases. While we have not commented on every item, our comments generally follow the order in which the IC organized its report.

1. The IC's Report and Proposed Revised RFP Ignore HB No. 6

The RFP filed on August 1, 2006, by the Company was consistent with the provisions of HB No. 6 and provided the needed protections for SOS customers and the Company. Specifically, HB No. 6 as enacted by the Delaware legislature required that:

"On or after May 1, 2006, it is the policy of the State that Electric Distribution Companies subject to the oversight of the Commission and as part of their obligation to be Standard Offer Service Suppliers shall engage in Integrated Resource Planning for the purpose of evaluating and diversifying their electric supply options, efficiently and at the lowest cost to their customers."

Further - "'Integrated resource planning' means the planning process of an Electric Distribution Company that systematically evaluates all available supply options, including but not limited to: generation, transmission and Demand-Side Management programs, during the planning period to ensure that the Electric Distribution Company acquires sufficient and reliable resources over time that meet their customers' needs at a minimal cost".

⁴ Id. ¶ 41.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

HB No. 6 also identified “resources that encourage price stability” as a factor to consider in the IRP.

2. The IC's Revised RFP Fails to Provide Customers with Price Stability or Reasonable Prices

The proposed RFP filed by Delmarva Power provided a vehicle to achieve the above objectives of HB No. 6, consistent with achieving a balance between the objectives of a reasonable price and price stability. Delmarva Power accomplished this in the proposed RFP by describing specific terms and conditions and constructs that will protect and limit the market exposure to volatile prices of SOS customers. In particular, Delmarva Power's proposed RFP was thoughtfully designed to manage the significant risks and exposure to SOS customers that they may face upon a potential execution of a Purchase Power Agreement (PPA) at the conclusion of the initial IRP/RFP process. As will be discussed in more detail below, the proposed RFP provided a set of complementary risk mitigation measures that need to be taken together as a package to adequately protect SOS customers from exposure to market risk consistent with the intent of HB No. 6.

3. The IC's Revised RFP Fails to Mitigate Financial Risks to Customers

The IC's Report fails to adequately recognize the importance of mitigating risk and exposure to SOS customers, and is overly concerned with protecting the potential investment of generation developers. The IC's Report does not recognize nor adequately value the necessity of complementary risk controls for customers in designing the specific terms and conditions in the proposed RFP. The IC's Report generally seeks to undo or overly weaken most of the key customer risk protections provided in the proposed draft RFP as filed on August 1, 2006.

There are special circumstances affecting both the IRP and RFP process in Delaware that are ignored in the IC's Report. Traditionally, IRPs and RFPs have been undertaken in jurisdictions where the customer base does not have a choice of electric supplier and customers must be served by the local electric utility. Indeed, almost all of the precedent cases, including those cited in the draft IC's Report, relate to RFP's that have been undertaken in an environment where customers did *not* have the ability to choose alternate suppliers. However, in Delaware's case, SOS customers may “migrate” to alternate suppliers. The opportunity for customers to choose suppliers has been reaffirmed in HB No. 6 and must not be ignored as a fundamental component of the regulatory structure for SOS customers. Therefore, customer choice must influence the structuring and evaluation of supply alternatives in the IRP and RFP process.

4. The IC's Revised RFP Fails to Address Potential Migration Risks

It is critical to recognize that this “migration” risk has the potential to add considerable exposure to remaining SOS customers and all distribution customers whether they are on SOS or not. This occurs because when SOS customers have an opportunity to select an alternate supplier and

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

leave SOS, there is the potential for the energy that the Electric Distribution Company is contractually committed to purchase to be greater than the load of the remaining SOS customers. As explained below, it is not likely that this excess energy can be consistently sold into the market at a profit, thus creating stranded cost.

This creation of stranded cost will be passed on to the remaining SOS customers, and as specified in HB No. 6`

“After hearing and a determination that it is in the public interest, the Commission is authorized to restrict retail competition and/or add a non-by-passable charge to protect the customers of the Electric Distribution Company receiving Standard Offer Service. The General Assembly recognizes that Electric Distribution Companies are now required to provide Standard Offer Service to many customers who may not have the opportunity to choose their own Electric Supplier. Consequently, *it is necessary to protect these customers from substantial migration away from Standard Offer Service*, whereupon they may be forced to share too great a share of the cost of the fixed assets that are necessary to serve them as required by this Act.” (italics added)

The proposed company RFP provided these protections by simultaneously limiting the size of the RFP and requiring the provision of firm energy. The IC's Report rejects or diminishes both of these key provisions and this is unacceptable to Delmarva Power.

5. The Company's Proposed RFP Better Protects Customers

The Company's proposed RFP, as filed August 1, 2006, complies with HB No. 6's legislative requirements and intent while, at the same time, is structured in the best interest of SOS customers. The balance struck by Delmarva Power on behalf of its customers is essential to the resource procurement process. The components of the proposed Company RFP, such as maximum MW size, security requirements, credit worthiness of potential bidders, levels of security, firm vs. unit contingent energy, price factors, and non-price factors each independently and *together* were established to assess and mitigate the potential risks the customer may bear upon entering into a long-term PPA arrangement.

6. The IC's Report Fails To Recognize the Critical RFP-IRP Relationship

The results of the RFP evaluation must be included in the IRP evaluation. HB No. 6 mandated that Delmarva Power prepare and file an Integrated Resource Plan (IRP) with the DPSC on December 1, 2006 to identify the optimal resources for its customers over a ten-year period. As part of the plan, Delmarva Power was ordered to file on or before August 1, 2006 a proposal to obtain long-term contracts. Delmarva Power did so, and this proposal is referred to as the proposed. HB No. 6 requires that Delmarva Power issue the RFP no later than November 1, 2006, and that bidders provide responses to the RFP no later than December 22, 2006. Thus the RFP responses are due three weeks *after* Delmarva Power files the IRP with the Commission and the State Agencies.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

To properly evaluate the bids received as a result of the RFP, Delmarva Power indicated in the proposed RFP that upon completion of the ranking evaluation of the bids, the highest bids resulting from this ranking process would be included in an updated IRP evaluation. This updated IRP, with information from the RFP ranking process, would then determine the Company's recommended demand and supply resource plan for its customers going forward. Under this process, Delmarva Power's customers would receive the benefit of the inclusion of the RFP results in the resource plan affecting their energy future.

The IC's Report correctly indicated that the proposed RFP did not provide a schedule for the timing of the IRP evaluation after Delmarva Power completed the ranking of bids. Delmarva Power is not in disagreement with the establishment of a schedule for the completion of the updated IRP to do so. Delmarva Power will revise the RFP to indicate that the updated IRP will be filed on or before a date agreed upon by Delmarva Power, the IC, Staff and the State Agencies.

It is critical to the success of the IRP process in meeting the objectives described in HB No. 6 that the ranked bids be evaluated within an updated IRP. The IRP evaluation filed on December 1, 2006 will include the results of production cost and generation expansion modeling within the PJM market and adjoining control areas based on available information regarding generation under construction. Prior to receiving detailed information for specific generation alternatives in Delaware through the RFP process, the planning model will need to assume *generic* unit information to determine the optimal supply resource plan. However, after the ranked bids become available, Delmarva Power can evaluate specific unit information related to potential generation construction in Delaware in the IRP. Including the RFP bid information in the IRP will provide comfort that the most up to date, relevant and specific information is being used to develop the resource plan for Delmarva Power's customers.

The IRP provides an over-arching evaluation of the entire demand and supply resource environment. The recommended results of the IRP analysis will be based on net present value and risk analysis obtained from detailed modeling designed to achieve the best mix of prices and price stability for Delaware SOS customers. The IRP analysis includes a broad, yet detailed, examination of the PJM market and the effect that potential demand, transmission, and supply resources may have on that market, including the Delmarva Power zone. In contrast, the RFP ranking will use points to evaluate key price and non-price factors related to specific generation units.

Also, the IRP will evaluate demand side management ("DSM") and transmission alternatives and, to comply with HB No. 6, will evaluate them against generation options as well, as can only be effectively done in an IRP. Only when all of the generation, transmission, and DSM alternatives are simultaneously evaluated within an integrated plan can the Commission, the Agencies and customers be assured that Delmarva Power has selected the best resources.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

The RFP process is a component of the broader IRP process. The IC's report stated that the Act is not explicit regarding how the RFP process relates to the IRP process. However, the Act clearly states that the RFP is to be part of the IRP process.⁵ While these processes are related, there are real differences between the IRP and RFP. Specifically, the IRP will consider all resource types, while the RFP focuses on only new generation in Delaware from proponents who are qualified and who submit a proposal. Thus, the RFP proposals will represent only a fraction of the resource alternatives available to Delmarva Power, and which the Company will consider in the IRP. These resources include demand-side management, other long-term power contracts, short-term and spot market power purchases, self-generation, etc. that may or may not be located in Delaware. The IC's report suggests that if the evaluation methodology used in the RFP and IRP processes are consistent, a proposal that is highly ranked under the RFP process should also rank highly in the IRP analysis. However, as described above, the IRP and RFP processes evaluate different options using different criteria. Only relying on the RFP may result in long-term PPAs that are not consistent with the IRP resource plan.

Delmarva Power believes it must evaluate the highly ranked RFP proposals within the IRP process to achieve the legislative requirement of investigating all potential opportunities for a more diverse supply at the lowest reasonable cost. Only through the IRP process can Delmarva Power determine if any RFP proposal is appropriate to be a supply resource for servicing its SOS customers. Whether a long-term contract with a generator who has bid in the RFP is in the best interest of Delmarva Power's SOS customers cannot be determined until we complete the IRP process.

7. The IC's Report Fails to Properly Consider Contract Size and Minimum Project Size

The proposed structure of any PPA being purchased as a result of the RFP should match the needs of DPL's SOS customers. The 200 MW limit identified in the proposed RFP is fair, reasonable and consistent with the provisions of HB No. 6. The 200 MW limit cannot be increased, and the minimum size should not be decreased.

The basis for this requirement is that in the context of obtaining electricity supply for SOS customers, the electricity usage of SOS customers varies over time. Residential and Small Commercial (RSCI) SOS customer usage varies by season and every day over a 24 hour period. This variation in the electricity usage requirements of SOS customers requires Delmarva Power to secure a product or mix of products that can match the electrical usage needs and characteristics of SOS customers. For example, consider Figure 1, attached, which depicts the hour-by-hour energy usage or "load profile" of the Delaware RSCI customer class for the period September 1 – September 14, 2005. Note that there is a very pronounced daily pattern of higher usage times (peaks) and lower usage times (valleys). The daily class peaks during this two-week period ranged from over 700 MW to just over 500 MW. The bottom of the daily load valleys were all under 300MW and on some days approached 200 MW.

⁵ See DE Code Title 26 Section 1007(b)(5) as amended by HB no. 6

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

In part because of this variation, a number of different electric “products” are offered by wholesale suppliers in the competitive PJM market, including products such as peak and off-peak energy, fixed amounts, and load following services. Currently, for our Delaware SOS procurement, we purchase a “full requirements” contract that includes firm energy delivery, load following, and ancillary services. This full requirements product allows Delmarva Power to meet the highly variable daily supply needs of the SOS customer class with a single competitively bid product.

By contrast, the product envisaged to be delivered to Delmarva Power from a PPA resulting from the RFP process is not a full requirements product. A full requirements product would include load following services, which Delmarva Power did not require in the proposed RFP, as it would be very difficult for a base load unit to provide this service. The PPA described by the IC would have Delmarva Power procure up to 400 MW of fixed capacity and energy from a single generating station. The energy and capacity would only be available when the generating station was in operation and would not be “firm”, nor would the bidder provide any load following services. This would create serious problems for Delmarva Power’s SOS procurement, including the increased risk around replacement energy, energy procured in excess of customer requirements, and how to cost-effectively supply the SOS load over and above the potential 400 MW size fixed contract.

Again please refer to Figure 1. Notice that if Delmarva Power had been required to purchase 400 MW of energy round-the-clock from a base-load generating station during this period, there are a number of hours where:

- The energy requirements of the RSCI customers are less than 400MW
- Energy during peak periods (and only peak periods) exceeds 400MW

While Figure 1 represents only two weeks out of the entire year, this pattern is repeated in most periods all year long. For example, Figures 2, 3, and 4 (all attached) depict the RSCI load profiles for July 1-14, 2005, January 1–14, 2005 and Feb 1-14, 2005, respectively.

During the two week period September 1 to September 14 , 2005 the total energy for the RSCI SOS customers was 138,061 MWh based on the load data underlying Figure 1. A base-load generating plant running at 400 MW and 100% capacity factor would produce 134,400 MWh during a two-week period (400 MW x 24 hours x 14 days). However, during the off-peak valley hours when RCSI SOS customer demand was less than 400 MW, Delmarva Power would have had to purchase 16,882 MWh *over* what the SOS customers were actually using if they had signed a PPA with a 400 MW generator. In other words, a 400 MW fixed purchase of base load energy is far more than what the SOS customers actually use or need. In this particular example, the excess energy represents 12.5% of Delmarva Power’s entire needs for the two weeks (16,882 MWh divided by 134,400 MWh), with little if any diversity, since all the energy is coming from one source.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

It is also clear from Figure 1 that the excess energy SOS customers would be responsible for purchasing would be during the valley, or off-peak hours. Consequently, this energy would have to be sold during the *off-peak hours* when the demand for energy and energy prices tend to be low. In the example above, if the excess energy had to be sold at a \$10/mwh loss during the off peak period, the total loss would be \$10 per MWh x 16,882 MWh, or \$168,820, for the two week period.

Analysis of the RSCI load profiles for the annual period October 1, 2004 through September 30, 2005 indicates that there would have been 461,575 excess MWh purchased if a 400 MW base load PPA had been in place. The losses for selling this excess energy into the off-peak market could easily climb into the millions of dollars annually, and could grow substantially given SOS customer migration risk and the long-term nature of the proposed PPA.

In the proposed RFP, Delmarva Power carefully selected the 200 MW PPA limit to protect its SOS customers from (among other things) having to sell undue amounts of excess energy into the off peak market, and to maintain at least a portion of SOS customer base energy to be served under a full requirements contract from a competitive bidding process. If we were to size the PPA up to 400 MW, SOS customers would be greatly exposed to selling excess energy into off peak markets at a loss, *and* to paying premium prices for on-peak load following energy contracts for all load over 400 MW. This would clearly be not the best outcome for customers and cause additional price instability.

HB No. 6 states that "... Standard Offer Suppliers shall engage in Integrated Resource Planning for purposes of planning and *diversifying* their electric supply options ..." (italics added) and "... DPL shall not rely exclusively on any particular resource or purchase procurement process." The PPA size limit of 200 MW in the Company proposed RFP takes both of these requirements into consideration. The IC's Report does not. In Figure 5, attached, column one (1) provides the energy output from a 200 MW generating resource over a year's time at unit availability factors ranging from 80% to 100% (we assume base load availability factors of at least 80%). Column two (2) shows the percentage of RSCI customer energy requirements that the plant output in the first column represents. The annual RSCI energy requirements were based on load research data from October 1, 2004 to September 30, 2005. Column two (2) also assumes no future customer migration. The percentages in this column range from just under 50% to just under 40%. In other words, a 200 MW base load generating plant would provide 40% to 50% of the energy requirements of the Delaware RSCI customer class depending on availability. These percentages increase when we consider customer migration, as shown in Columns 3 and 4. If the PPA limit of 200 MW were increased to 400 MW, as proposed in the IC's Report, the percentages in Figure 5 would double. In fact, if the PPA limit were increased to 400 MW, Delmarva Power would be in violation of the legislative requirement that "At least 30% of the resource mix of DP&L shall be purchases made through the wholesale market via a bid procurement process or auction process held by DP&L."

Given the guidance provided in HB No. 6 to consider diversification of electric supply options, and to not rely exclusively on particular resources, the proposed limit of 200 MW is more than

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

reasonable, and is the maximum size PPA that Delmarva Power should sign. In fact, based on the information presented in Figure 5, it could be argued that the 200 MW PPA limit is too large a commitment for Delmarva Power's RSCI customers.

A considerable risk and exposure to Delmarva Power SOS customers under a PPA that did not require the delivery of firm energy would be the cost of replacement capacity and energy requirements in the event of a generation outage. For the twelve (12) months ended October 1, 2006, the average Locational Marginal Price ("LMP") for the PJM Delmarva Power zone was \$61.46 per MWh. At this price, the cost of replacement energy for each hour the plant was out of service would be $200 \times \$61.46$ or \$12,242. For 24 hours the replacement cost would be \$295,008 and for a weeklong generator outage, it would be \$2,065,056.

These figures are based on average prices and a 200 MW commitment. Actual prices will vary by season and time of day so it is possible that if a plant outage occurred during a high priced peak period the replacement energy cost could be much higher. If the PPA size limit was increased above 200 MW and there was no requirement for the generator to provide SOS customers firm energy, these risks increase. Given the proportion of load that even a 200 MW unit represents, it would not be acceptable or prudent for customers for Delmarva Power to consider any commitment over 200 MW.

The points above are more than sufficient to justify maintaining a 200 MW upper limit on bids, but there are additional reasons. When Delmarva Power established the maximum amount of capacity, energy, and ancillary services to be purchased under a PPA to be 200 MW, the company recognized several key factors: (1) there is a legislative requirement that 30% of SOS supply be sourced from the wholesale market through a bid/auction process; (2) the legislation requires the company to "investigate all potential opportunities for a more *diverse supply* (emphasis added) at the lowest reasonable cost"; (3) the historical SOS load for residential and small commercial customers ("SOS Load") reported during a period of minimal customer choice reflects an average annual load of approximately only 400 MW;⁶ and (4) recent customer choice information indicates that there has been a material increase in customer migration as of the end of June 30, 2006. For example, non-residential customer migration increased from 0.03% on June 30, 2005 to 5.47% on June 30, 2006, indicating that the load has become more volatile and, in aggregate, the load has decreased.

Given these conditions, a minimum 120 MW (30%) of the 400 MW average historical SOS Load is obligated to be serviced through a bid/auction process, which leaves approximately 280 MW to be available for alternative supply sourcing. Thus, 200 MW represents 50% of the historical SOS load and 71% of the SOS load not required to be serviced through a bid/auction process. Since it is not unlikely that all of the supply potentially procured through the RFP would be from a single supplier, Delmarva Power believes that 200 MW is already the maximum that SOS customers should accept in terms of supply and price diversity, if not excessive. The Company is already relying on SOS load growth over time to bring this percentage down. Moreover, due

⁶ SOS load was examined for the 12 months ended September 30, 2005.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

to potential migration risk and the impact from any DSM programs implemented through the IRP, this single sourcing percentage of 50% could in fact increase. In addition, as stated previously, Delmarva Power could not meet the 30% legislative requirement if it were to increase the size request to 400 MW as suggested by the IC's Report.

The IC's Report suggests that if a potential IGCC plant could bid 400MW, 200MW of that bid could be dispatchable. The IC incorrectly assumes that if the plant is running above 200 MW, and the energy produced exceeds the SOS load, the energy price from the plant would be below the PJM market price and the energy could be sold at a profit. This is not necessarily the case, as neither the IC nor Delmarva Power know today exactly what the relationship will be – hour by hour – between an established fixed price PPA contract and the future market price of energy in the PJM. Delmarva Power and its consumers should not be compelled to take this risk. In particular, Delmarva Power believes that the 200 MW of dispatchable load that the IC cites would likely be in excess of market prices during most of the off-peak hours, when market prices are the lowest.

As an example, a potential IGCC plant with a 75% capacity factor would cost customers who choose to stay with Delmarva Power approximately \$13.1 million per year associated with the dispatchable 200 MW if market prices were \$10/MWh below the fixed price PPA contract. Further, such higher prices for Delmarva Power customers would exacerbate customer migration, as retail customer choice in the State permits customers to freely move to alternative suppliers. When the SOS supply cost becomes higher than market rates, SOS customers would likely select alternative providers resulting in a decrease in the SOS load. In this case, the Company would still have the contractual obligation under a long-term fixed price PPA contract to purchase power at above market prices, creating stranded costs for the Company. The greater the MW size and the longer the term of the contract, the greater the risk of this stranded cost becoming significant.

The longer the average duration of fixed price SOS supply, the greater the opportunity there is, during the fixed price period, for customers to leave SOS for a more favorable priced alternative. Over time, given volatile energy prices, a long-term fixed price SOS supply portfolio would likely be above and/or below the relative market prices at various points in time while the fixed price supply is in place. During the time when the fixed SOS supply price is above the market alternatives, customer migration would likely increase. Relying predominately on a single long-term contract as a source of supply for servicing SOS load (50% reliance given the 200 MW RFP maximum and the historical SOS load of approximately 400 MW) would result in a higher risk of customers choosing alternative suppliers and resulting in periods of time where the SOS supply volume would exceed the load it was acquired to serve.

Delmarva Power faces significant risk by entering into a large long-term PPA, given that there is no guarantee of long-term customer commitment. It is possible that SOS customers' demand could fall sharply in some years, or over several years, and Delmarva Power will not be able to sell the power purchased under the PPA because the market price is well below the cost of the long term commitment. This large risk is doubled by raising the size from 200 MW to 400 MW.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

The potential magnitude can be illustrated by looking at the levelized cost of a new coal plant, which is a proxy for the PPA cost versus historical wholesale power prices in Delmarva Power. The average cost⁷ (2010-2031) of a new coal plant is uncertain but a reasonable estimate to illustrate the risk is \$61.00/MWh (2005\$). Only once over the period 1998-2005 has the Delmarva Power wholesale power price exceeded the levelized cost of a new coal plant (and then by only 10 percent). In all other years, the Delmarva Power price has averaged \$38.00/MWh or 38 percent below the levelized cost of a new coal plant (see Figure 6). While the future is not necessarily going to be repeated, the historical record is compelling in this situation.

To underscore this point, the inability to fully recover new generation costs in the PJM market was also highlighted in the 2005 State of the Market Report.

“Net revenue is an indicator of generation investment profitability, and thus is a measure of overall market performance as well as a measure of the incentive to invest in new generation to serve PJM markets. Net revenue quantifies the contribution to capital cost received by generators from PJM Energy, Capacity and Ancillary Service Markets and from the provision of black start and reactive services. Although it can be expected that in the long run, in a competitive market, net revenue from all sources will cover the fixed costs of investing in new generating resources, including a competitive return on investment, actual results are expected to vary from year to year. Wholesale energy markets, like other markets, are cyclical. When the markets are long, prices will be lower and when the markets are short, prices will be higher. Analysis of 2005 net revenue indicates that the fixed costs of new peaking and mid-merit units were not fully covered, but that the fixed costs of new coal-fired base load were covered. During the seven-year period 1999 to 2005, the data lead to the conclusion that generators’ net revenues were less than the fixed costs of generation and that this shortfall emerged from lower, less volatile Energy Market prices and lower Capacity Market prices.”⁸

If the Delmarva Power market experiences price levels similar to the seven year period 1998-2004, coupled with 100 percent customer migration (for illustrative purposes), Delmarva Power’s annual loss with a 200 MW contract would be \$72.5 million.⁹ Over 10 years the loss would be \$725 million, and over 25 years it would be \$1.8 billion. The IC’s Report and proposed RFP would have the SOS customers of Delaware and Delmarva Power, a company with a tangible net worth of approximately \$619 million, bear this entire burden.

⁷ Levelized Cost includes capital costs, fixed O&M, variable O&M, fuel and environmental costs; assumes a 90% capacity factor.

⁸ PJM State of the Market Report, Section 3, pg. 116 (2005)

⁹ Calculated as 200 MW * 8760 hours * 90% capacity factor * (\$61.0/MWh - \$38.0/MWh)

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

Requiring a 400 MW contract would double Delmarva Power's exposure. As such, the potential loss with a 400 MW contract over 25 years could be as much as \$3.6 billion. Even if the migration is lower, the costs would be substantial. Even if customers as first glance appear sticky – i.e. stay with SOS even as the market moves – this can be illusory and temporary. As the remaining SOS load declines, and as market prices fall below the PPA costs, migration would increase, and the Company would experience a “death spiral effect”, as the \$/MWh rates for remaining customers would need to increase as Delmarva Power passes the increasing loss to these customers, and more customers leave, etc.

Another example, Atlantic City Electric Company (“ACE”) currently has generating units under contract whose capacity costs are well above the current market rate. The NJ Board of Public Utilities has asked ACE formally to investigate opportunities for restructuring these contracts in hope that those same capacity costs can be reduced. Delmarva Power sees no reason to replicate the type of exposure that has caused known complications in a neighboring state.

These numbers are presented to illustrate the point, and are not necessarily the most likely case, but they highlights the risk of doubling the size, as well as the fundamental problem of having a long-term power commitment without long-term customer commitments.

8. Customers Should Not Have to Assist Developers to Finance Projects

The IC's report identified the concerns some developers have with respect to the 200 MW maximum size, stating that a larger MW commitment is necessary to achieve favorable financing for large generation facilities (facilities in excess of 200 MW). It may be the case that potential developers of large generation facilities cannot receive favorable financing due solely to the “known” revenue stream from Delmarva Power's customers being reflective of only a portion of the output from a new facility (up to 200 MW). However, this is not justification for Delmarva Power's customers to be subjected to entering into a PPA far in excess of need. In addition, customers should not be forced into relying on a non-diverse sourcing of supply solely to permit such financing. If they choose to build a project larger than Delmarva Power requires, developers are free to package a number of contracts together with other customers in addition to the potential PPA to achieve the “known” revenue streams necessary for favorable financing.

Delmarva Power believes there is no rationale for increasing the maximum MW size, recognizing that even the 200 MW level may not provide an appropriate level of supply price diversity and/or may exceed the level of future SOS Load given migration risk and likely DSM impacts. Delmarva Power should not be required to procure more supply than needed. Customers may absorb costs associated with over-procurement, even with the 200 MW size.

With respect to the minimum size requirement of not less than 50 MW for non-renewable projects and 25 MW for renewable projects, the Company wants meaningful levels of supply for sourcing its SOS load. The 50 MW size is equivalent to standard energy contracts transacted in the wholesale market, and provides the Company with a means to replace the energy in the event of non-performance. It is also of sufficient size that would impact the overall economics and

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

stability of SOS load costs, and the Act indicates that the procurement of power should have a significant economic impact.

Thus, the Company should accept bids only from projects that could have a significant impact in terms of providing stability, low prices, environmental benefits, etc., while not making commitments that are too large, either. Delmarva Power reduced the 50 MW minimum to 25 MW for renewables to accommodate environmentally responsive projects such as large wind farms and solid waste facilities (e.g., landfill gas). The Commission provides other incentives for renewable projects (e.g., renewable portfolio standards). The Company believes that this RFP should not be the vehicle for funding smaller projects.

9. The Bid Fees Proposed by the Company Are Reasonable

Delmarva Power has proposed a non-refundable fee of \$10,000 when bids are submitted, and the IC has agreed, with the exception that they believe bids of less than 50 MW should only provide a fee of \$200 per MW, with a \$500 minimum.

Delmarva Power appreciates the IC's endorsement of Delmarva Power's bid fee as a general matter, and understands that the IC is trying to lower the barrier for small projects to participate. However, as described above, Delmarva Power does not agree with the IC that there should be no minimum bid size – we would still require bids of at least 50 MW, and 25 MW for renewables, as described above. A \$10,000 bid fee is not onerous for serious developers intending to build projects of this size.

Given the other programs in Delaware to provide opportunities for small renewable projects, such as RPS, this RFP is not the appropriate vehicle to use for such projects. Thus, there is no need to accommodate smaller projects with a per MW fee.

10. It is in the Interest of Delmarva Power SOS Customers that the PPA Requires the Purchase of Firm Rather Than Unit Contingent Energy

As described above, it is important to recognize in making supply commitments for Delmarva Power SOS customers that there are different electric “products” available in the PJM wholesale market. Similar to generation which has base-load, cycling, and peaking resources, wholesale power markets offer a variety of products such as peak or off peak energy, fixed amounts, and load following services. Currently, for Delmarva Power's SOS procurement, we purchase a specific product during the bidding process. This product is a “full requirements” contract that includes firm energy delivery, load following, and ancillary services. The full requirements contract is just that -- it provides all the services needed to supply the contract portion of the SOS load. If, as a consequence of the RFP, Delmarva Power is required to procure a portion of its SOS load requirements with a non-full requirements energy contracts, the services not provided will either still need to be procured, hedges must be put in place, or the SOS customers will face additional exposure to the spot market.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

Wholesale suppliers are currently willing to supply full requirements contracts, contracts which include firm energy to serve the Delaware load - this is what they have been bidding in the competitive procurement process in Delaware. Thus, Delmarva Power's request for bidders in the RFP to provide firm energy is not unreasonable, and it is in customers' interest. The IC's Report rejection of a firm energy contract disregards the Company's current experience.

In this context, it is also germane to discuss the distinctions, particularly with regard to risk, between an electric distribution company such as Delmarva Power providing retail SOS service and services provided by electric wholesale suppliers.

Wholesale suppliers typically sell into broad power markets and maintain diversified portfolios of physical generating assets (i.e., base-load, cycling, and peaking plants), fuel inventories, short and long term fuel contracts, derivatives, and other products to manage their business risks. Wholesale suppliers can purchase or sell as much electricity as they need to conduct and hedge their business obligations using their entire portfolio of available resources to manage and mitigate their risks.

Electric distribution companies providing SOS service, on the other hand, have an obligation to provide electricity to a specific group of customers within a specific jurisdiction. The size of the SOS load may not be large enough to support maintaining a diversified portfolio of physical assets, fuel contracts and financial assets. If an electric distribution company such as Delmarva Power was required to obtain power from a single generating facility, that facility would not be part of a larger diversified resource portfolio of physical assets, as are available to wholesale suppliers. This would expose Delmarva Power customers to additional risks, against which Delmarva Power needs to appropriately protect its SOS customers. Delmarva Power does not own a portfolio of generating assets to hedge its risk, nor does it have the resources to manage a portfolio of fuel contracts and related financial and physical derivatives.

HB No. 6 contemplates the use of new physical generating assets located within the State of Delaware to supply SOS customers. However, unless otherwise mitigated by a number of complementary and appropriate protective mechanisms, this places the risk of generation ownership back on the SOS retail customer, a risk that currently is non-existent for Delaware SOS customers. Under Delmarva Power's current procedures to purchase full requirements electricity products to meet SOS customers' needs, the outage risks, environmental assessments, operational risks, and technological advance risk associated with physical generating resources is carried by the generation owner (i.e., wholesale supplier), whoever it may be. This is because one of the 'full requirements' is the provision of firm energy, and providing firm energy places the generation risk on the generator not on the customer. Delmarva Power believes that it is better and more practical for generators to control and mitigate the risks associated with maintaining and operating their facilities than to pass that risk on to SOS customers.

If a PPA resulting from the RFP does not provide firm energy to SOS customers, it is likely to violate both key objectives of HB No. 6 related to price and price stability. This would occur because if the generator experiences an outage of any kind, Delmarva Power as the agent for

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

SOS customers, will be “on the hook” to secure all replacement energy required. Since we do not know when outages will occur, how long they will last, or what the replacement energy cost will be during the outage period, our ability to manage procurement cost and maintain price stability will be severely compromised.

If the electric distribution company has the obligation to provide SOS customer energy requirements, and then becomes a defacto generation owner through a PPA executed as part of the RFP process, then all the generation ownership risks will be carried by the SOS customer, and appropriate protections will need to be secured for these customers. These protections are not currently in place for Delmarva Power SOS customers, nor are they available from the market free of charge. Consequently, the proposed RFP submitted by Delmarva Power sought to incorporate basic protections to compensate for these significant risks. The IC's report lacks consideration of these potential risks and exposures faced by Delmarva Power SOS customers becoming generation owners through contract, and the need to mitigate these risks.

As discussed above, Delmarva Power's SOS procurement contracts obtain full requirements electricity products. Very importantly, a full requirements product contract is a contract for *firm energy* and *load following* among other services. Firm energy means just that; the counterparty will deliver the energy required to meet the portion of the SOS load covered by the contract *whenever* that load is needed. In contrast, the PPA contract envisioned by the IC's Report is neither for firm energy or load following; rather, it is for fixed output from a specific generating asset. Unless the electric product secured for SOS customers is for full requirements, additional protections will be needed to protect SOS customers from exposure to spot markets.

In the proposed RFP, Delmarva Power did not request that the generator provide load following services. This was not an oversight but recognition of the requirement in HB No. 6 to consider resources that utilize base load technologies. Base load generating plants are not good resources to provide load following services, as they are designed to run at high capacity factors for long periods of time. The Commission should recognize that if a non-load following PPA contract is executed to provide energy for a portion of the Delmarva Power SOS load, Delmarva Power will need to purchase additional load following services. Otherwise, our SOS customers will be exposed to the spot market.

Delmarva Power views serving the SOS load as a firm commitment. Allowing generators to offer unit contingent power just shifts price volatility to the customer. It is the intent of the legislation to obtain reasonable and stable prices for the customers. To obtain this balance, the risk of purchase replacement power should be transferred to the party best able to manage the risk. Delmarva Power is located in the PJM, the country's most vibrant wholesale market, where generators have been exposed to the risk of operating in this market and have developed the tools and skill sets to mitigate this risk. For instance, generators bidding into PJM's first settlement are committed to delivery of energy purchased, regardless of the unit's actual availability. There is no reason to complicate the PPA with complex and inaccurate adjustment mechanisms (such as the IC's recommendation), when the generator (rather than customers) are in the best position to bear this risk. Requiring the generator to supply firm power will provide

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

them with the proper incentive to build and maintain a reliable plant, and will transfer the risk of purchasing replacement power to the party best able to manage it.

11. The RFP and PPA Must Provide for – UCAP

It is essential that the PPA provide for provision of UCAP, as required in the proposed RFP, because of the way that PJM operates. PJM assigns the Company a capacity obligation based on its SOS customer's peak load. To provide SOS, the Company must obtain sufficient UCAP to meet this obligation. In other words, UCAP obligation of the SOS customers is what Delmarva Power is, in turn, obligated to provide PJM. The UCAP calculation takes into account a generating unit's forced outage history. In addition, in qualifying with PJM to provide UCAP, the generating unit agrees to schedule outages in accordance with PJM procedures. Requiring the generator to provide UCAP assures the generator is compliant with all PJM standards and minimizes additional cost that will be incurred by Delmarva Power in administering the contract. If Delmarva Power were to grant generators a higher level of capacity than UCAP, it would be inconsistent with PJM procedures and not relieve Delmarva Power of its UCAP obligations in PJM.

Also, the IC has recommended use of a "capacity payment adjustment provision that will be reflective of UCAP, but will also take into consideration planned outage time and the greater importance of reliable performance during peak periods..." Delmarva Power sees no reason for such an adjustment, as this is both inconsistent with the evaluation of bids (which requires a fixed capacity price), but more importantly, inconsistent with PJM operation.

12. The Company Need Only Purchase the Ancillary and Environmental Attributes Required to Serve the SOS Load

The IC states that the RFP requires the bidder to supply "any and all ancillary services and environmental attributes that the unit may provide". This is an overstatement. Delmarva Power's draft RFP indicates that the Company would only purchase the services and attributes required to serve the SOS load and that the generator is capable of producing. Moreover, the IC has stated that projects that will not provide ancillary services or provide only limited ancillary services (such as a wind project) will be penalized in the bid evaluation." Delmarva Power has not suggested such a penalty, but instead has indicated that the Company would take such ancillary services into account to the extent that a generator commits to providing them, and the Company needs them. Purchase of services or attributes not required to service SOS customers or the purchase of more services or attributes than are required to meet the SOS customers would only serve to increase the risk of price volatility.

13. The Delivery Point Must be in the PJM Defined Delmarva Power Zone

The IC has indicated that a seller should be able to deliver to any interconnection point within the Delmarva Power zone, while in the draft RFP, Delmarva Power has indicated that for

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

generation in Delaware, the interconnection point will be the PJM bus to which the generator is electrically connected.

Delmarva Power strongly opposes any changes to the Delivery Point definition. To serve SOS customers, the Company must purchase power from the PJM defined Delmarva Power zone. If the company purchases power from the generator from any other location, the risk of delivery and congestion costs will be absorbed by customers. The Company believes it is in the best interest of customers to require generators to site plants where these risks are mitigated, and thus the definition of interconnection point in the draft RFP is reasonable.

14. The Company Proposes to Provide a Standard Form PPA

The IC recommends that Delmarva Power provide a proposed form of power purchase agreement ("PPA") to the Commission for prior review, rather than have Delmarva Power prepare and make available to interested bidders a PPA based on a term sheet approved by the Commission. The IC further recommended that Delmarva Power provide the proposed form of PPA to the Commission no later than November 1, 2006.

Given the length and complexity of a full PPA, Delmarva Power believes that allowing it to develop a PPA based on the major commercial terms in a Commission-approved term sheet will expedite delivery of the form contract to bidders. If the Commission desires, Delmarva Power is willing to provide a form PPA to the Commission for prior review, but to enhance efficiency and minimize costs, it requests that it have not less than 10 business days to do so after the Commission has approved the final term sheet, as critical elements of the PPA cannot be prepared until the Commission has made a decision with respect to the term sheet.

15. Delmarva Power Opposes Modifying the Regulatory Out Provision Related Issues

The IC proposes limiting the Regulatory Out provision to the period preceding the initial Commission approval, and not for subsequent periods and/or events. Delmarva Power opposes this change. Delmarva Power is of the view that the IC's Report's recommendation is contrary to longstanding contracting practices in regulated industries. As Delmarva Power could not pass contract costs to customers without the expressed approval of the DPSC, therefore at no time should Delmarva Power be exposed to potential costs without surety of DPSC review and pass-through. Should the DPSC elect not to act or acts in a manner that does not pass through the costs then Delmarva Power should not be forced into a position of having to absorb or carry such costs. Stripping out the regulatory out contract provision, exposes Delmarva Power to substantial market based financial risk and uncertainty. Such risk and uncertainty will be reflected in increased cost of borrowing and potential ratings downgrades, which are unacceptable to Delmarva Power and serve only to impose additional costs on SOS and distribution customers.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

16. The Company's Credit Requirements Protects the Customer

The IC's Report has indicated that Delmarva Power's credit requirements are too stringent in that a bidder or their guarantor must possess an investment grade rating and must also meet a specified net worth threshold. The IC's Report is concerned that this combined threshold requirement would reduce competition by eliminating a number of potential bidders.

Delmarva Power opposes any changes to these provisions. A supplier default would be highly detrimental to Delmarva Power and its customers, and Delmarva Power's proposed requirements would significantly reduce the probability of default. In specific, it is crucial that the bidder or guarantor have an investment grade rating. The default rate for non-investment grade companies is over ten times higher than that of investment grade companies across all time horizons and particularly in the long-term. Over the period 1983-2005, the twenty-year cumulative default rate for investment grade companies was 4.1%, versus 42.3% for non-investment grade companies.

Delmarva Power's current rating and size reduces its flexibility to take on such a significant additional risk. Delmarva Power's current senior unsecured credit rating of BBB-/Baa2/A- (S&P/Moody's/Fitch) provide inadequate cushion to withstand additional credit risk of this nature. Currently, Delmarva Power's Tangible Net Worth is approximately \$619 million, indicating that Delmarva Power is a relatively small electric utility. At this level, Delmarva Power has inadequate flexibility to handle a default from a PPA of 200 MW, must less one of 400 MW to which it has made a 10-25 year commitment.

The risks from a long-term PPA contract are multi-faceted and are exponentially higher when the counterparty is a non-investment grade entity. A supplier providing a major portion of Delmarva Power's load over a long period of time would increase Delmarva Power's concentration risk, and this risk is compounded for non-investment grade companies. Delmarva Power is also subject to counterparty risk. Rating agencies consider counterparty risk in evaluating Delmarva Power's credit. A non-investment grade supplier, especially when supplying a major portion of the load over the long-term, would markedly increase Delmarva Power's counterparty risk, and put downward pressure on Delmarva Power's bond rating.

In addition, the posted collateral from bidders is based on Delmarva Power's current best estimate, and may not be sufficient to completely cover future exposure, thereby leading to under-collateralization and higher financial and credit risks. Again, this risk is compounded with a below-investment grade counterparty. Our exposure calculation is based on an 18 months time frame, and if we are not able to procure replacement power at the original contract price within that period, Delmarva Power will be exposed to spot market price volatility and the shortfall can increase from under collateralization, which in turn jeopardizes our ability to maintain an investment grade rating.

The risks from a long term PPA contract are numerous and a default (with a higher probability from non-investment grade entities) will increase Delmarva Power's financial risk, lower creditworthiness, put severe downward pressure on its debt ratings, and ultimately lead to a

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

credit downgrade, which would put Delmarva Power in the non-investment category. As a non-investment rated company, Delmarva Power would have reduced access to capital, increased capital costs, and reduced operational flexibility due to impaired access to power markets for years into the future. The added costs would be borne by customers and would spill over into the Company's distribution business.

Further, a bidder default will impede Delmarva Power's ability to carry out its planning process and provide reliable power to its customers. Although Delmarva Power may ultimately procure replacement energy, it may not be possible to achieve the same price stability, fuel diversity, geographical diversity or other objectives identified in HB No. 6.

Based on the above facts, Delmarva Power strongly believes that limiting participation to investment grade bidders is a necessary and cost-effective way of controlling the strongly adverse financial impact of a supplier default on Delmarva Power's customers. While we recognize that there may be non-investment grade companies that would be precluded from participating in this RFP, the higher risk associated with their participation is more risk than Delmarva Power's customers should be required to bear.

With regard to a bidder's net worth, Delmarva Power would like to clarify the following issues:

- 1) The net worth threshold requirement would apply to the company on whom the unsecured credit limit determination is made (the bidder or guarantor, not both)
- 2) The net worth threshold requirement does not apply to how the project is financed.

Delmarva Power, at a minimum, would require the bidder or its guarantor's "at risk capital" (net worth used as a proxy) to equate to the project costs or outlay. Delmarva Power believes this requirement would further reduce the probability of a supplier default and in turn reduce the risk to its customers.

17. Developers Must Demonstrate Site Control

Delmarva Power notes that in general, the IC's Report agrees with Delmarva Power's approach to this threshold factor. The Company does not wish to exclude offshore wind projects from consideration, and therefore agrees with the IC's Report to modify the RFP to accommodate such projects.

However, Delmarva Power does not believe that as a threshold item, it is sufficient for the developer of an offshore wind project to simply file an application for required permits. Such a standard would provide offshore wind projects with an advantage over onshore projects, which must meet a higher threshold. It would also be incompatible with the purpose of this threshold criterion, which is for the bidder to show Delmarva Power that if selected, they can affirmatively site the proposed project. If Delmarva Power selected a project whose sponsor had only applied for permits, and the project could not come to fruition, then customers would be deprived of

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

needed capacity and stable prices. Customers should not have to bear such risk. The Company looks to the IC and those interested in developing such projects to propose a more stringent standard.

18. The Security Requirements the Company Seeks Are Critical

Delmarva Power acknowledges the IC's Report agreement that the development period security of \$100/kW is reasonable, given the range of \$50-\$200/kW that they have observed in the market.

The IC's Report has suggested that wind projects receive preferential treatment with regard to all the security requirements (development period, delay damages, and operational period), such that their security payment would be tied to the anticipated capacity factor for such projects (e.g., \$40/kW instead of \$100/kW if the expected capacity factor is 40%).

This is not acceptable to Delmarva Power. First, it is curious that the IC's Report differentiates wind from other renewables, for which the IC's Report suggests no such preference. Second, and more fundamentally, Delmarva Power believes that such preferential treatment violates basic fairness, which would require that all projects be treated the same. Third, adopting this approach would encourage bidders to lower the capacity factor that they say they can provide to Delmarva Power, since they would incur lower security requirements. The Company does not want bidders to try and manipulate this aspect of their bids. Finally, Delmarva Power does not believe that wind (or renewables) should be given special treatment in this RFP, other than the environmental, diversity and other aspects that already favor clean projects, as there are other programs in Delaware (e.g., the RPS program) that already do so.

The IC's Report further indicated that Delmarva Power is "doubling up" on security payments if delays go beyond the Guaranteed Delivery Date, since Delmarva Power would be charging the bidder both delay payments and charges for operational security as if the project had come on line. Delmarva Power is not "doubling up" as the operational security does not initiate until the plant comes on line and delay payments would cease concurrent with the plant operating.

Finally, the IC's Report recommended that delay damages and damages for failure to meet pre-initial delivery date milestones should not exceed \$85/kW. We do not agree, and the IC provides no justification for this comment. Also, the IC's Report agreed that security of \$100/kW during the development period is reasonable, so Delmarva Power does not understand why it should limit damages to \$85/kW.

Inadequate security or collateralization potentially has the same negative consequences for Delmarva Power as lack of credit-worthiness, as described above - it exposes the Company and its customers to the risk of uncompensated costs if the bidder does not perform as anticipated. Delmarva Power's credit ratings and tangible net worth has no room for additional exposure. Thus, there is no room for Delmarva Power to lower the credit and security requirements.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

19. Delmarva Power Objects to the Revised Scoring Methodology

Delmarva Power notes that the IC's Report accepts the overall 60-40 split between price and non-price factors that the Company has recommended in the draft RFP. In addition, Delmarva Power acknowledges the fact that – with minor exceptions – the IC's Report accepts the same price and non-price factors that the Company has proposed to evaluate bids. However, Delmarva Power does not agree with the IC's suggestion that evaluators should use three “super categories” (Economics, Favorable Characteristics, and Viability), and that a project must achieve a minimum score in each category to be one of the winners. That is, the IC's Report would deem a project unacceptable if it does not meet all three of these levels, even if its overall score was the highest.

The Company understands what the IC's Report is trying to achieve – they want to ensure that all projects meet minimum standards in broader areas that they define as important. Delmarva Power objects strongly to this approach, based on the following related points:

- The purpose of meeting the threshold criteria is that doing so indicates that a project is minimally acceptable. The use of such super-categories thus constitutes an unnecessary second level of threshold criteria. A second tier of threshold criteria is not necessary to avoid choosing an unacceptable project.
- Such super-criteria would make the more judgmental part of the scoring – the non-price factors – even more judgmental, due to the subjective selection of the minimum score.
- This approach would add uncertainty and risk for potential bidders, who will recognize that they could “win”, and still be rejected, and thus dampen potential participation in the RFP.
- Even if we accepted the concept, there is no acceptable way of setting such minimums, as evidenced by the fact that the IC's Report has not suggested such figures. And further, even if Delmarva Power used such minimums, there would likely be challenges from a developer excluded because they fell one or two points below such a threshold – given the judgment exercised in the non-price area in particular, using this approach would invite time-consuming challenges.
- Overall, this approach would make a complex scoring system due to number of price and non-price criteria required in the Act even more complex

Finally, Delmarva Power believes that the IRP process will assess some of the super criteria, such as the economics of a project, and would thus be redundant with the IRP. In sum, Delmarva Power respectfully rejects this recommendation.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

20. Delmarva Power Affiliates Are Closely Regulated

This item has several components that are of concern. First, the IC's Report has recommended that an affiliate of Delmarva Power should submit its bid one day in advance of the deadline for all other bids. We are not certain how this would achieve the IC's objective, which is presumably to prevent self-dealing. The Company requests further explanation of the IC's Report basis for this recommendation. Delmarva Power notes in this regard that there are existing standards of conduct that govern the relationship between Delmarva Power and its affiliate, which the Company believes are sufficient to safeguard the bidding process.

However, if this "day-in-advance" provision is included, we recommend naming in the RFP the specific date on which this proposal should be submitted – December 21, 2006. Some bidders may submit their bids early – in fact the RFP encourages bidders to do so since the evaluation period is short. Naming the specific date would make clear that even if Delmarva Power's affiliate submits a bid after such early submitters, it would still be acceptable, as long as it is submitted before the bid deadline. Delmarva Power agrees that an affiliate submitting a bid would be subject to the same security and other requirements as other bidders. Delmarva Power does not agree, however, that the Company would necessarily submit a bid as an affiliate, as the IC's Report says would be preferable.

21. The Company Rejects the IC's Reports Proposed Point Reallocation

The IC's Report has indicated that there is insufficient information in the RFP on the model(s) and process that Delmarva Power and its consultant ICF will use to evaluate bids, in particular the portion relating to price stability. They have indicated that they are likely to have more comments on the approach to price stability once Delmarva Power has clarified its approach. The IC has also indicated agreement with Delmarva Power's proposed 60-40 split between price and non-price factors (subject to the inclusion of "super categories" mentioned above, a recommendation which the Company rejects). Further, the IC has recommended moving the two points for contract terms in the draft RFP from being a non-price factor to being a price factor.

Delmarva Power has several comments on this. One of the reasons that Delmarva Power chose to work with ICF was because of the firm's strength in market analysis (including PJM in particular), and the tools that ICF has developed to do so. Attached to this response is more detail on the IPM® (Integrated Planning Model™, which is the model that ICF will use for the analysis of energy and capacity prices in the PJM market and the Delmarva Power zone. This state-of-the-art model is used by utilities, financial institutions, government agencies and others to effectively capture the dynamics of power supply and demand, fuels, electric transmission, environmental regulations and much more. Further, ICF is well respected for its independence in applying this model to market analysis. To assess price stability, ICF intends to assess the impact of alternative scenarios (e.g., changing fuel prices), and in that context, project how the proposed projects would enhance or maintain price stability for SOS customers.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

With regard to the IC's Report suggestion to transfer two points for contract terms from the non-price category to the price category, Delmarva Power does not see how this would work. How would the Company quantify the impact of the acceptance or non-acceptance of specific terms into a dollar amount that could be assessed as a project cost? At one point in its report, the IC mentions that the contract terms may affect the structuring of risk between the parties. Delmarva Power agrees, but it would seem impractical to assume that the Company could reliably quantify the risk for any and every contract change. While Delmarva Power is open to further clarification from the IC in this regard, the Company is not favorably disposed towards this recommendation. Further, Delmarva Power is not aware of any other RFP where contract terms have been considered a quantitative or price factor.

22. The Company, Subject to Receiving Additional Information from the IC, May Support Capacity Price Changes

The IC's Report suggested that bidders be able to index capacity prices. To a limited extent, Delmarva Power will agree with this suggestion. In specific, the Company will agree that bidders may change their price for capacity between the time that bids are submitted, and the time that they execute a contract with Delmarva Power. However, such indexing must use widely recognized indices, and must be tied to a provision of the contract that the bidder signs with its equipment suppliers (i.e., there will not be increases in payments under the PPA unless the bidders' cost actually increases). The Company solicits feedback from the IC regarding what indices would be verifiable and credible in this regard.

Delmarva Power notes that bids containing such capacity price indexation will have lower price stability, which the Company will take into account in the evaluation process. Delmarva Power does not accept the IC's Report's suggestion that bidders be permitted to index capacity prices over the life of the contract for possible changes in fixed O&M costs; we expect bidders to manage that risk rather than pass it on to consumers.

23. Residual SOS Impact

The IC's Report indicated it would like additional information regarding the method Delmarva Power has proposed to evaluate the impact to residual SOS customers.

The Residual SOS Load is that load which Delmarva Power will be required to serve with resources over and above the supply available from any individual bid or combination of bids in the RFP. Delmarva Power will be required to procure additional supply for this remaining SOS load. Each bid will likely have a different size and load profile, and as such, the residual supply requirements for SOS customers over and above this will vary, and the impact on the cost for serving residual load must be examined for each bid.

Delmarva Power will utilize a modeling approach to capture the cost of serving the remaining load. In specific, Delmarva Power will use ICF's IPM® (see Figure 7) modeling tool to project Delmarva Power's wholesale power price, assuming that the proposed plant(s) associated with

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

each bid or combination of bids operates in Delmarva Power. Bidders have been requested to provide necessary information to appropriately reflect the expected variable dispatch costs of the generation facilities in their bid. Delmarva Power reserves the right to incorporate their own assumptions, consistent with industry standards, where information from the bidder is not provided, is incomplete, or considered unreliable. The contract specifications for each bid will be included directly in the model and any remaining capacity at the facility will be modeled as merchant generation available to dispatch in merit order to the power grid.

The IPM® model will capture the costs of serving the residual load not served by the proposed contract. The costs will reflect the wholesale market price of energy and capacity required to serve the entire residual load, reflecting time of day and total quantity. This cost, plus the total cost of the proposed contract, will reflect the total cost of serving SOS load, which will be compared to the estimated cost of serving the total Delmarva Power load estimated through the modeling analysis in Delmarva Power's IRP. The difference in these values will be considered the impact of the bid on residual load. Delmarva Power will evaluate this value over the life of the contract and calculate a present value.

Delmarva Power will use a similar approach to examine the price stability implications of a bid on residual SOS load. The approach to examining price stability is discussed elsewhere in this response.

Delmarva Power will not quantify the additional costs of serving retail load directly. For example, purchases in the SOS auction will reflect additional transaction costs over and above wholesale market prices. It is expected that premium costs will exist for load which does not have a base load component, that is, load following transactions in the SOS auction have lower transaction costs than those associated with peak only supply. These transaction costs are over-and-above the time-of-day wholesale power price, which will be captured in the IPM® analysis. Bids, which have a load following element, will therefore be expected to result in lower transaction costs than those with only a base load component. Although these transaction costs will not be reflected quantitatively, Delmarva Power will give preference to load following bid and will use this factor to help rank bids in cases where the quantitative analysis results in approximately the same value.

24. T&D Project Impact

To analyze the impact of new generation on the T&D system, Delmarva Power will use the latest PJM load flow models, which include the latest PJM RTEP upgrades. These load flow cases will contain the latest PJM assumptions for load growth, system configuration, generator additions, etc., which are available through 2011. To ensure consistency of the analysis, only that portion of a generator project that is being bid into the RFP process will be included in the T&D impact analysis (i.e., if a 500 MW project is proposed and only 200 MW is being bid into the RFP, only 200 MW will be used in the T&D impact analysis). In this regard, we agree with the comment of NRG that the IC's Report cites.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

On the other hand, Delmarva Power does not see the basis for limiting the analysis of the impact of transmission impacts to five years, as the IC's Report has also requested the Company to comment on. Transmission upgrades that a bidder's project may require are long-term financial obligations for customers, so the Company does not see the logic in truncating the assessment of transmission impacts after an arbitrary period. After 2011, Delmarva Power will use ICF's analytic framework to simulate the transmission impact of the bids.

Delmarva Power has stated that its T&D impact analysis is a preliminary analysis only, to be used for bid evaluation. PJM will make the final determination of T&D upgrades associated with a given generation project through the PJM generation queuing process.

25. Imputed Debt Offset

The IC's Report lays out a number of options, and recommends using a 30% risk factor to impute debt to Delmarva Power. However, the S&P report provided by the IC's Report clearly states that S&P would use a 50% risk factor for imputing debt when the PPA contract exceeds 3 years, and this assumes adequate regulatory support. The S&P report adds that they can make exceptions and either increase or decrease the risk factor, depending on regulatory support, counterparty risk, and other factors. For the IC's Report to suggest that they are better able to make this assessment than S&P, and that Delmarva Power should therefore lower the risk factor to 30%, would not be prudent, and would assume less risk than an objective financial institution has assigned. Delmarva Power believes that only the rating agencies can make such a change in the risk assessment, and until they do, Delmarva Power has no reason to second guess the rating agencies and assign a lower risk factor. The prudent way is to use the 50% risk factor as a base case. The Company can carry out variations from the base case, but to understate this factor would not accurately assess the true cost or risk to customers of a bid.

26. Loss Under Probability of Default

Delmarva Power strongly opposes eliminating the Loss Under Probability of Default ("LUPD") price factor, as the IC's Report has proposed. As stated in the Company's draft RFP, it would be imprudent not to address the potential economic cost impact to Delmarva Power's customers under a default situation. The results of this price factor will rate higher the bidders that carry stronger credit ratings. There is quantitative historical evidence that supports the point that stronger, more credit-worthy companies have a lower likelihood of defaulting on their obligations than do companies with weaker ratings.

The IC's Report would eliminate this price factor and recommends five points from the Price Stability portion of the evaluation be used to account for potential defaults based on the MW contract size. This is not a logical transference, as MW contract size does not drive default risk. A bidder's credit rating correlates to default risk and the contract's price related to replacement cost identifies ultimate exposure. Delmarva Power believes the LUPD should not be eliminated as the factor properly evaluates one bid versus another bid with respect to likely defaults.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

27. Price Stability

The IC's Report has requested more detail on how Delmarva Power and ICF would quantify this factor, which is worth 20 points in the evaluation process. Delmarva Power and ICF will analyze the price stability effects of the bids using a four-step process.

1. The first step is to create scenarios that allow us to analyze the effects of different future conditions on the cost of SOS service to Delmarva Power customers for each bid. The scenarios to be analyzed may include combinations of some or all of the following: (1) alternative fuel prices (natural gas, oil, and coal prices), (2) alternative economic conditions (e.g. general inflation), (3) alternative market conditions (e.g. alternative transmission conditions, electricity demand growth, technological improvement), (4) alternative emission regulations (e.g. CO₂ control), and (5) alternative bid specific performance scenarios (e.g. supply uncertainties associated the bid including those that might affect market price).
2. The second step is to calculate the average cost for SOS customers over the period of the analysis, including residual purchases from the market for each bid.
3. The third step is to calculate a variance in prices for each option, where each scenario is weighted equally. In addition, a variance will be estimated for the market assuming no bids are accepted.
4. The fourth step is to allocate points to the bids. The options with the greatest decrease in market variance per MWh supplied will receive the maximum points, and the other options will receive points based on the extent to which they decrease variance from the market option in comparison to the best option. For example, if the market option has a variance of 1.0x, and Options 1, 2, and 3 have variances of 0.7x, 0.8x and 0.9x respectively,
 - a. Option 1 would receive the full 20 points,
 - b. Option 2, whose variance is one-third of the way between the best option and the market option, would receive 13.3 points (two-thirds of 20 or $0.2/0.3$ times 20), and
 - c. Option 3 would receive 6.7 points (one third of 20 or $0.1/0.3$ times 20).

If options have variances of 1.0x or greater, they would receive no points, and if no option decreases variance, then no option will receive points.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

28. Economic Evaluation

The IC has endorsed ICF's IPM® model as a tool that is appropriate for both IRP and RFP applications, and indicated that it is a positive feature of this process that IPM® will be used for both. Delmarva Power and ICF appreciate the IC's Report's endorsement.

In addition, the IC's Report has indicated that it is premature for Delmarva Power to develop a metric for determining how many points a project would receive based on the levelized prices that it offers. Delmarva Power respectfully disagrees. The Company believes that comparing one bidder's levelized price to another – using a common set of market assumptions - is a legitimate and appropriate way to evaluate bids, and Delmarva Power sees no reason to keep bidders uncertain about how those points will be assigned. In doing so, bidders will remain focused on how to provide the lowest possible price to SOS customers. If the IC's Report has an approach they believe is superior to the one that Delmarva Power has proposed, the Company is certainly amenable to reviewing it, but we do not see the benefit of non-disclosure in this aspect of the evaluation process.

The IC's Report has also requested that it be able to specify several "test bids" that the Company and ICF will run through the evaluation process to test the system before bids have been received. At the same time, the IC's Report has indicated that it does not believe the Delmarva Power should be required to disclose its models and key assumptions to all participants, as this would delay the process beyond the time available, and the IC indicates that the IC's Report itself will perform this review function.

Once the analysis is complete, Delmarva Power is amenable to providing the Agencies and the IC's Report with the key assumptions that it has used in the price analysis of bids, both for the reference case and other scenarios. However, Delmarva Power does not believe that the IC's request that it be able to specify certain "test bids" in advance of receipt of bids would be appropriate, for several reasons.

- First, the Company should be allowed to make its own assessment of the framework for analyzing bids in the context of power markets. Delmarva Power expects and anticipates oversight by the Agencies of that assessment, but is concerned that if the Agencies and the IC are involved in determining the assumptions that ICF would use in the analysis, it would constitute "pre-regulation" of the Company's analysis (specifying the input assumptions is a critical element of any model run). The time for the Agencies and the IC to review our analysis is after it is complete, rather than while we are in the process of conducting it.
- Second, if the IC is concerned that the modeling approach properly distinguish between different types of projects, Delmarva Power believes that it has engaged ICF to work with the Company to ensure that the evaluation process effectively captures the distinctions between project types. This is fundamental to the evaluation process. For the IC to

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

specify a test run in effect shows an *a priori* lack of confidence in the analysis that Delmarva Power and ICF will carry out.

- Finally, Delmarva Power is concerned that even if the Company agreed to do so, there is not sufficient time in the process. There are hundreds of assumptions that go into ICF's modeling work, and it sometimes takes weeks for ICF to work with clients to agree on assumptions and evaluate a limited number of scenarios. Of course, Delmarva Power and ICF will go through this process in order to prepare and carry out the evaluation of bids in a reliable manner. The time frame is extremely tight for Delmarva Power to do so as it is. In the time allowed under the legislation, it is simply not feasible to add on top of this a multi-week process that would include the Agencies and the IC in such considerations as: the definition of generic projects; the specification of input assumptions; the selection of scenarios; and the review of the results, not to mention any requests for follow up work.

In addition, in this section, the IC has recommended that Delmarva Power request data on the bidders' equivalent availability factor (EAF). Delmarva Power agrees that this information is important, and has requested it. If the IC looks at Form D of the draft RFP, Generation Facility Technical Description, Items 4) and 5), these items request data on Expected Annual Forced Outage Rate (%), and Expected Average Annual Maintenance Requirements (days/year), respectively. The Company can determine the EAF from these two responses.

The IC has also suggested that the RFP be more specific about the pricing formulae and schedules, so that bids are readily comparable. Delmarva Power agrees that the data forms should be clear about pricing, and will review these items. The Company requests that the IC indicate specifically which items in the data request they do not believe are sufficiently clear, and how the IC would modify them.

29. Environmental

The IC has made a number of comments on this non-price factor. First, the IC has suggested changing the title of this section from "Environmental Compatibility" to "Environmental Impacts". The Company has no objection to this change.

Second, the IC has suggested raising the number of points for this factor from 7 to 14 points. In response, Delmarva Power wishes to point out that even though this factor is the only one that explicitly mentions environmental features, there are other factors that will directly favor clean and renewable projects. For example:

- The factor for price stability will favor renewable projects, whose energy prices should be zero, and stable. There are 20 points available for this factor, and clean projects can be expected to obtain the vast majority if not all of such points, while projects using other fuels (e.g., coal, gas) will receive less by definition.
- The factor for fuel diversity will favor renewable projects, among others.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

Thus, clean, environmentally benign projects are already favored in Delmarva Power's proposed evaluation process, and in fact would receive much more than the 7 points in the section with this title. Nevertheless, Delmarva Power is willing to accept this modification, and increase the points available for "environmental impacts" from 7 to 14, with the understanding that this change obviously provides less emphasis on other factors.

Third, the IC has rejected the comments from some stakeholders that this factor be quantified. Delmarva Power believes that the IC is referring to the comments that requested that the Company put a dollar figure on such factors as the health impacts of emissions, the global warming impact, etc. Delmarva Power is pleased to agree with the IC that it would not be practical or desirable to carry out such analysis as part of the evaluation of bids.

Fourth, the IC has recommended that Delmarva Power assign sub-points to the six items in this category. In specific, they have recommended that the first two, greenhouse gas (GHG) emissions and emissions of EPA criteria pollutants, each receive 4 points, and that the last four (impacts on water, land, wildlife and waste) each receive 1.5 points. Delmarva Power accepts the principle of prioritizing the sub-items within this evaluation factor, and further agree that the air emissions impacts should receive more emphasis as they would affect a wider area and population than the others (though the debate on such matters can be heated), both in Delaware and elsewhere. Thus, the Company is amenable to assigning sub-points in the manner that the IC has recommended.

Where we differ in this regard is that the IC has suggested that the analysis of air emissions would look at the system-wide emissions of Delmarva Power, or potentially of the PJM as a whole. This is clearly indicated by the IC's example that the evaluation of the emissions of the proposed project should take into account the impact on emissions by other generation projects in the network. Delmarva Power is not in favor of this approach. This approach would greatly complicate the analysis for little if any perceptible gain in distinguishing between projects, compared to assigning points based directly on the emissions from the proposed project. For example, a renewable project would receive all the possible points on GHG emissions, since it would have no such emissions. This is true whether or not one evaluates the fact that the operation of this project would reduce generation at coal and gas plants elsewhere in PJM. It is not advisable to include system-wide emissions in the evaluation process.

Further, the IC has suggested identifying whether the impacts are high, medium, or low. However to assign this relative ranking, and assign points, the Company would still need an objective standard. To implement this approach, Delmarva Power recommends establishing specific levels of emissions per MWh that we can use to decide whether the impact are "high, medium or low", and thus assign points for the GHG and EPA criteria pollutant items. Again, this assessment should evaluate only the proposed project (setting the project-specific standards will be challenging enough). The Company solicits input from the Agencies (e.g., DENREC) and the IC (since this was the IC's suggestion) on what those standards should be.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

30. Reliability

The IC has agreed with Delmarva Power that there should be five points allocated for this factor, and has suggested allocating three of those points for innovative projects, and two of those points for system reliability benefits.

Delmarva Power's response is two fold. First, the Company does not agree with the IC that *system* reliability should be part of the evaluation here. In the quantitative evaluation, ICF will capture impacts on system reliability in the analysis of transmission upgrade requirements, so there is no need for system reliability to be assessed here. This section should focus strictly on the reliability of the proposed project and technology.

Clearly there is a balance to be struck with this criterion. The Act specifies that Delmarva Power should favor innovative technology, and yet, such technologies will have the least track record to show whether they are reliable. To make this more explicit, Delmarva Power agrees to clarify how many points (from zero to five) will be provided for different technologies, absent performance guarantees. Performance guarantees for unproven technologies would raise the points that Delmarva Power would award.

31. Fuel Diversity

The IC has recommended that points in this category be based on whether the project increases the diversity of the fuels used to generate power in Delmarva Power's service territory. In this instance, the IC's recommendation seems to reflect a misunderstanding of how Delmarva Power procures power. Delmarva Power purchases power in the market, based on a rolling three-year descending clock auction that provides consumers with the most cost-effective means of satisfying their expected capacity and energy needed.

To implement this recommendation would require that Delmarva Power know exactly how the power that the Company procures through the system-wide auction is generated. This may be impractical, particularly if the supplier is providing power to Delmarva Power from its network, and not on a unit-contingent basis, from specific units.

32. Contract Terms

The IC noted that there were no substantive comments to Delmarva Power's proposal that it award two points based on "bids with the fewest and least substantive changes" to the PPA that Delmarva Power will provide to interested bidders, but nonetheless objected to Delmarva Power's description of the criteria, suggesting instead that proposals be judged on the reasonableness of the requested changes. Delmarva Power believes that its original formulation is appropriate, as evidenced by the absence of comments to the contrary. All deviations to the form contract will require time (and thus expense) to review and evaluate, and delving into the "reasonableness" of numerous deviations would further complicate the analysis.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

33. Output Contract

The IC Report recommended that Delmarva Power provide a proposed form of power purchase agreement ("PPA") to the Commission for prior review rather than have Delmarva Power prepare and make available to interested bidders a PPA based on a term sheet approved by the Commission. The IC further recommended that Delmarva Power provide the proposed form of PPA to the Commission no later than November 1, 2006. Given the lengthy and complexity of a full PPA, Delmarva Power believes that allowing it to develop a PPA based on the major commercial terms in a Commission-approved term sheet will expedite delivery of the form contract to bidders. If the Commission desires, Delmarva Power is willing to provide a form PPA to the Commission for prior review, but to enhance efficiency and minimize costs, it requests that it have not less than 10 business days to do so after the Commission has approved the final term sheet, as critical elements of the PPA cannot be prepared until the Commission has made a decision with respect to the term sheet.

34. Term Sheet Conditions

The IC Report stated that it disagreed with Delmarva Power's proposal to reject a bid for failure to meet a threshold requirement if the bidder disagreed with terms and conditions that Delmarva Power considers to be non-negotiable. It suggested in the alternative that a failure to meet a threshold requirement could occur only if contract exceptions "taken as a whole effect a fundamental restructuring of the risk allocation set forth in the RFP" in the view of both Delmarva Power and the IC and the bidder fails to withdraw the pertinent exceptions; other exceptions are to be considered in the detailed bid evaluation process.

Because the Commission itself will specify the terms of the PPA, Delmarva Power believes that the number of negotiable terms should be very limited, as the Commission effectively is pre-negotiating critical commercial terms on behalf of bidders. In Delmarva Power's view, bidders are being provided "two bites at the apple" if they are given the opportunity to negotiate provisions that Delmarva Power was required by the Commission to accept in the RFP. Moreover, Delmarva Power will not have the ability to enter into the give-and-take required by typical commercial negotiations if the Commission already has directed that it must accept certain terms, thus providing bidders with an unfair advantage in negotiations. Delmarva Power therefore proposes that the terms specified or approved by the Commission in the term sheet included with the final RFP be considered non-negotiable, but that bidders have the right to negotiate other terms developed as part of the form PPA.

Finally, the "fundamental restructuring of the risk allocation" standard that the IC has proposed is extremely high, and raises the question of who would determine whether such a line had been crossed. In essence, this standard seems impractical to administer in the time frame of this evaluation, and thus in effect would allow bidders with broad leverage over the Company in negotiations.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

**A. Milestones/Liquidated Damages/Pre-Operational Termination Rights
and Consequences**

In lieu of Delmarva Power's proposal, which allowed bidders a choice between terminating a PPA for a lower termination payment should it be unable to get permits within 18 months of the Effective Date (i.e., the date the Commission provides final approval of the PPA and authorizes rate recovery by Delmarva Power for the costs of the PPA) or continuing its permitting efforts for an additional 6-month period by agreeing to step up to a higher termination payment, the IC recommended that bidders be allowed to bid milestone dates consistent with the schedule appropriate for their projects, subject to the "not later than" deadlines in the RFP. The IC stated that in its experience, setting fixed permitted and other milestones without regard to the nature and location of a project is an "unrealistic exercise." Delmarva Power is primarily concerned with being able to enter into replacement contracts as soon as possible after it becomes apparent that a project is not likely to be built within the time required by the PPA.

Accordingly, Delmarva Power is willing to work with bidders to establish deadlines working backward from the Guaranteed Initial Delivery Date, which itself can be established by the bidder as the date a certain number of days or months after the Effective Date. Deadlines would be based on the customary construction period for projects of similar size and technology to a bidder's own proposed project; for example, a solid fuel-fired project typically has a much longer construction period than a single-cycle combustion turbine project, and the permitting deadline for the solid-fuel project would therefore need to be earlier than that for a CT having the same Guaranteed Initial Deliver Date.

Delmarva Power still proposes to use the two-step process described in the draft RFP, allowing the bidder to extend the permitting deadline by 6 months in exchange for stepping up to a higher termination fee should it be unsuccessful. Delmarva Power also believes that it is not appropriate to apply Force Majeure concepts to the permitting deadline: Delmarva Power crafted the permitting provisions taking into account the time required to obtain permits, and expanding Force Majeure to include permitting delays undermines the specific mechanism created to address permitting. Also, Delmarva Power notes that there is no need to apply Force Majeure to delays in the Effective Date if the bidders Guaranteed Initial Delivery Date is, as suggested above, based on the actual occurrence of the Effective Date, whenever it may be, as delays in the Effective Date would automatically adjust the Guaranteed Initial Delivery Date.

The IC also objected to Delmarva Power's limiting its damages to \$50/kW for defaults leading to termination before the Initial Delivery Date, suggesting instead that "all direct damages" be paid, which it finds to be "common industry practice." Delmarva Power is willing to consider a standard damages provision, but believes that any such provision must be reciprocal, with a defaulting bidder also being liable for all direct damages suffered by Delmarva Power. Delmarva Power had not suggested that approach in its draft RFP, recognizing the potential difficulty a low net worth bidder might have in providing security for a damage amount than cannot be predicted at contract signing. However, if a bidder can demonstrate that it or a parent has the ability to pay any foreseeable amount of direct damages, Delmarva Power would

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

reconsider. Delmarva Power does believe, however, that a liquidated damage approach as originally suggested is certainly sufficient to support a bidder's financing, and would further be willing to specify that if the amount of drawn construction loans exceeds the liquidated damage amount, it would be liable for the difference.

B. Initial Delivery Date Requirements

The IC has suggested that Delmarva Power relax its proposal that a project be required to demonstrate, as a condition to the Initial Delivery Date, a net Capacity of not less than 95% of the maximum Contract Capacity specified by the seller, for projects using less commercially established technologies, such as an IGCC. The IC suggests that a bidder be able to propose a lower threshold, subject to Delmarva Power's approval. The purpose for Delmarva Power requiring a more robust threshold is to provide certainty that the capacity that Delmarva Power expects under a PPA will in fact be constructed; otherwise, prudence would require Delmarva Power to over-subscribe for Capacity to avoid possible shortfalls.

Delmarva Power suggests that rather than reducing the percentage, bidders can reduce the risks associated with new technologies by specifying lower Contract Capacities. Delmarva Power also notes that the IC's mark-up of the term sheet eliminated the requirement that the seller, as a condition to the Initial Delivery Date, demonstrate that it held all emission allowances, credits and offsets required to operate at the maximum Contract Capacity. Delmarva Power included that requirement in the proposed RFP to ensure that a project was in fact legally capable of operating as required under the PPA, and does not understand the basis for the IC's proposed deletion.

C. Event of Default/Remedies

The IC's mark-up of the term sheet suggests a number of revisions to the events of default proposed by Delmarva Power:

- Delmarva Power proposed that failure to deliver any Product as and when required under the PPA would be an event of default. This was done so Delmarva Power could obtain cover damages paying for the difference, if any, between the cost of Product that the seller was required to deliver and the cost of replacement Product purchased by Delmarva Power to cover the seller's failure; Delmarva Power did not propose having a right to terminate the PPA for such failure to deliver. The IC suggests modifying this event of default to require both a failure to deliver and a wrongful sale of the Product to a third party; it also specifies that the default would occur only if the seller's failure continued for three days after notice from Delmarva Power. Delmarva Power cannot accept this modification, as Delmarva Power is relying on cover damages in order to pay for replacement Product: its right to receive cover damages should not be dependent on the sale of the Product to a third party, and it should not require notice and cure. As formulated by the IC, if a seller elected during a peak period to sell energy to a third party rather than to Delmarva Power as required by the PPA, Delmarva Power would be forced

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

to acquire replacement energy—if it were available—at its own expense, and the seller would have no liability so long as resumed deliveries for a brief period within three days following notice from Delmarva Power. Delmarva further believes that, as it originally proposed, the failure of a seller to meet its obligations to deliver Product more than five times in one calendar year give rise to a right to terminate the PPA for nonperformance. Because, in Delmarva's view, this is a firm and not a unit-contingent obligation, the seller under all circumstances needs to ensure that Product is delivered when and as required by Delmarva; whether Product is provided from the project itself is not relevant so long as it is being provided and Delmarva can use it to serve its SOS Load. Delmarva suggests that the failure to provide Product more than five times in a calendar year is evidence of unreliable supply that Delmarva should have the right to replace.

- Delmarva Power proposed that seller's failure to post, supplement or renew Development Period Security within the time required by the PPA be an event of default. The IC recommends requiring Delmarva Power to provide notice and a cure period to the breaching seller, except with respect to the second installment of the Development Period Security that becomes due within 15 days after the Effective Date. Delmarva Power does not believe that requiring notice and a right to cure is appropriate with respect to a seller's failure to provide security as and when required under the PPA, because the security requirements will be well known to the seller and its failure to timely provide security exposes Delmarva Power to harm during the period the security is not in place. Typically, the failure to provide security is indicative of a serious problem on the part of a seller, and Delmarva Power requires the ability to protect itself immediately—rather than be forced to sit on its hands for some period of time—when such a problem presents itself lest the existing security expire and leave Delmarva Power exposed.
- Delmarva proposed that a project's failure to maintain UCAP of at least 90% for six consecutive months for reasons not attributable to Force Majeure constitute an event of default. The IC suggested that the default instead be triggered if the project's Equivalent Availability Factor is less than 60% for twelve consecutive months. As discussed above in "Capacity—UCAP," Delmarva believes that UCAP is the appropriate measure of performance given the purpose of PPAs entered into under this RFP: serving SOS Load. Should a project prove unable to fulfill its obligations to provide power to serve SOS Load, Delmarva must be able to replace it with more reliable power. Therefore, Delmarva believes its original formulation of this event of default is appropriate.
- Delmarva proposed that a seller's failure to comply with any Resource Adequacy ("RA") requirement imposed by the Commission or PJM be an event of default. The IC suggested that the seller have no obligation to meet an RA requirement if it would subject the seller to a material increase in operating or capital costs or a material decrease in revenues, in either case for which it was not fully held harmless by Delmarva. Delmarva is willing to compensate a seller for its incremental out-of-pocket costs it would not have incurred but for its obligation to comply with the RA requirement, subject to a threshold to be established. Because it is wholly foreseeable that RA requirements may be

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

imposed, Delmarva believes it is appropriate for a seller to take such requirements into account in its financing and operating plans rather than to simply expect Delmarva and its SOS customers to bear the full cost of compliance

- Delmarva Power proposed that a seller's failure to comply with the Credit Requirement provisions of the PPA be an event of default; the IC suggests that a default occur only if Delmarva Power provides notice and the seller fails to cure within ten days. As with the Development Period Security, Delmarva Power objects to the requirement to provide notice and an opportunity to cure. The Credit Requirement provisions clearly specify what is required and when it must be provided, and requiring notice and an opportunity to cure only exposes Delmarva Power to harm at a time when the risk is greatest.

D. Set-off

The IC has stated that in its experience, affiliate set-off provisions impair the seller's ability to finance a project. Delmarva Power does not believe that lenders hold any views regarding set-off in the context it is being used here: allowing a non-defaulting party to set off amounts owed to a defaulting party.

E. Changes in Law

The IC has suggested that future environmental compliance costs in the form of a Btu or carbon tax be treated by the seller as a pass-through cost of energy to Delmarva Power. Delmarva Power believes that, were such a tax in effect today, a power purchase contract would either specify that it was borne by the seller, or that it would be passed through subject to Delmarva Power's ability to recover the additional costs in its rates. Delmarva Power therefore suggests that the same approach be used here.

F. Dispute Resolution

The IC does not believe Commission should be the dispute resolution forum in the event of a contract dispute. Delmarva Power disagrees. Delmarva Power is regulated by the Commission. The Commission is charged with protecting the public interest. In that the Commission is actively engaged in this process there is no single other party that would be more knowledgeable on the contract, issues and history. Moreover, any dispute resolution that would require increasing costs to Delmarva's customers (or changing the contract) must be submitted to the Commission for approval.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

G. Other Issues

The IC stated that the assignment clause should be clarified to assure that changes in control of the seller do not require Delmarva Power's consent. Delmarva Power believes that the continuity of the identity of the seller is essential to the contract, and that it is wholly industry standard to require a power purchaser's consent if control of a seller is transferred to a new entity. Delmarva Power notes in particular that the ability to change control of a seller that is a special purpose entity provides for unfettered assignability of the contract because interests in the SPE can be sold without restriction. Delmarva Power strongly requests that the existing standard—requiring consent that is not to be unreasonably withheld—be maintained.

The IC also proposed in its mark-up of the term sheet that the terms on which Delmarva Power agreed to provide consent to assignment for financing purposes be modified. Delmarva Power stated its willingness to provide such a consent so long as it was not required to agree to additional terms or conditions; the IC suggests that Delmarva Power be required to agree to additional terms or conditions so long as they would not materially diminish Delmarva Power's rights or materially increase Delmarva Power's obligations under the PPA. Delmarva Power objects to this formulation because it does not want to expose itself to claims of breach should the parties' respective views of "materiality" differ. Delmarva Power notes that lenders often use consents to assignment to extract additional concessions from power purchasers, including requiring longer cure periods, and Delmarva Power does not believe it is appropriate to be obligated to negotiate the PPA for a third time. Therefore, Delmarva Power proposes to provide a form of consent to assignment that has been used successfully by borrowers in many financings, and would agree in the PPA to enter into such a consent in connection with a debt financing by the seller.

The IC stated its view that language in the term sheet requiring the seller to reimburse Delmarva Power for certain legal expenses. Delmarva Power will clarify that it is seeking reimbursement for only three categories of costs, all of which it believes to be industry standard: (i) costs incurred in reviewing and negotiating consents to assignment of the PPA that may be required by a seller's lender, as well as associated legal opinions; (ii) costs incurred to enforce its rights under the PPA, and (iii) costs incurred to ascertain its rights under the PPA following a breach. Delmarva Power is not seeking reimbursement for its costs of negotiating the PPA itself or implementing the PPA in the ordinary course.

The IC suggested certain modifications to the definition of "Force Majeure" in the term sheet. Delmarva Power is willing to accept all of the modifications, subject to clarifying that the language regarding inability to obtain required permits does not apply to permits needed by the seller prior to the Initial Delivery Date. As discussed above in "Milestones/Liquidated Damages/Pre-Operational Termination Rights and Consequences," the schedule requirements applicable to seller's permitting activities already take into account potential delays, and it would not be appropriate to provide additional relief by operation of the Force Majeure provision.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

Respectfully submitted

A handwritten signature in black ink, appearing to read 'Anthony C. Wilson', written in a cursive style.

Anthony C. Wilson
Associate General Counsel

On behalf of :
Delmarva Power & Light Company
800 King Street
P.O. Box 231
Wilmington, DE 19899
(302) 429-3061

Figuerel Del RSCI Sept 1-14 2005

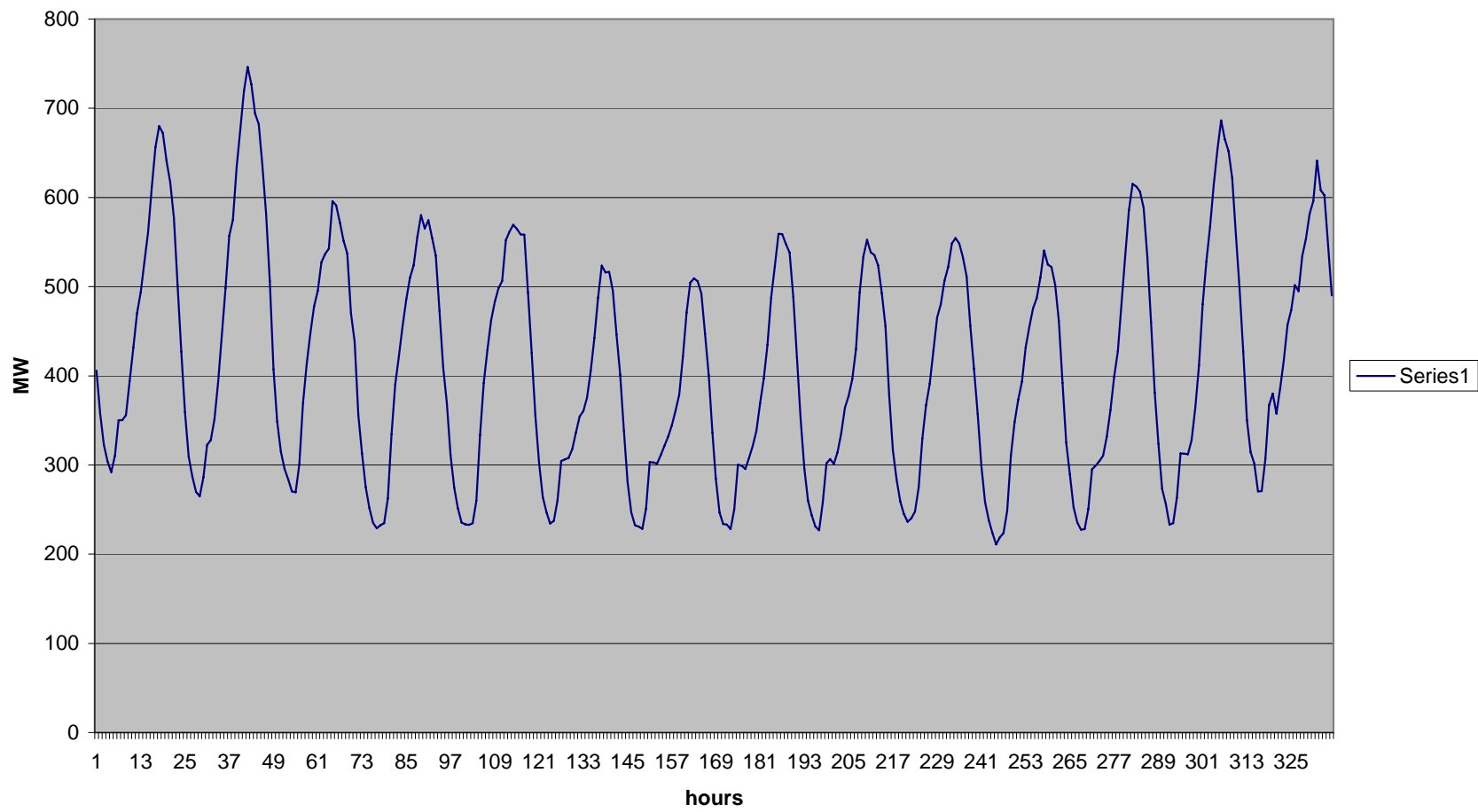


Figure 2 Del RSCI July 1-14 2005

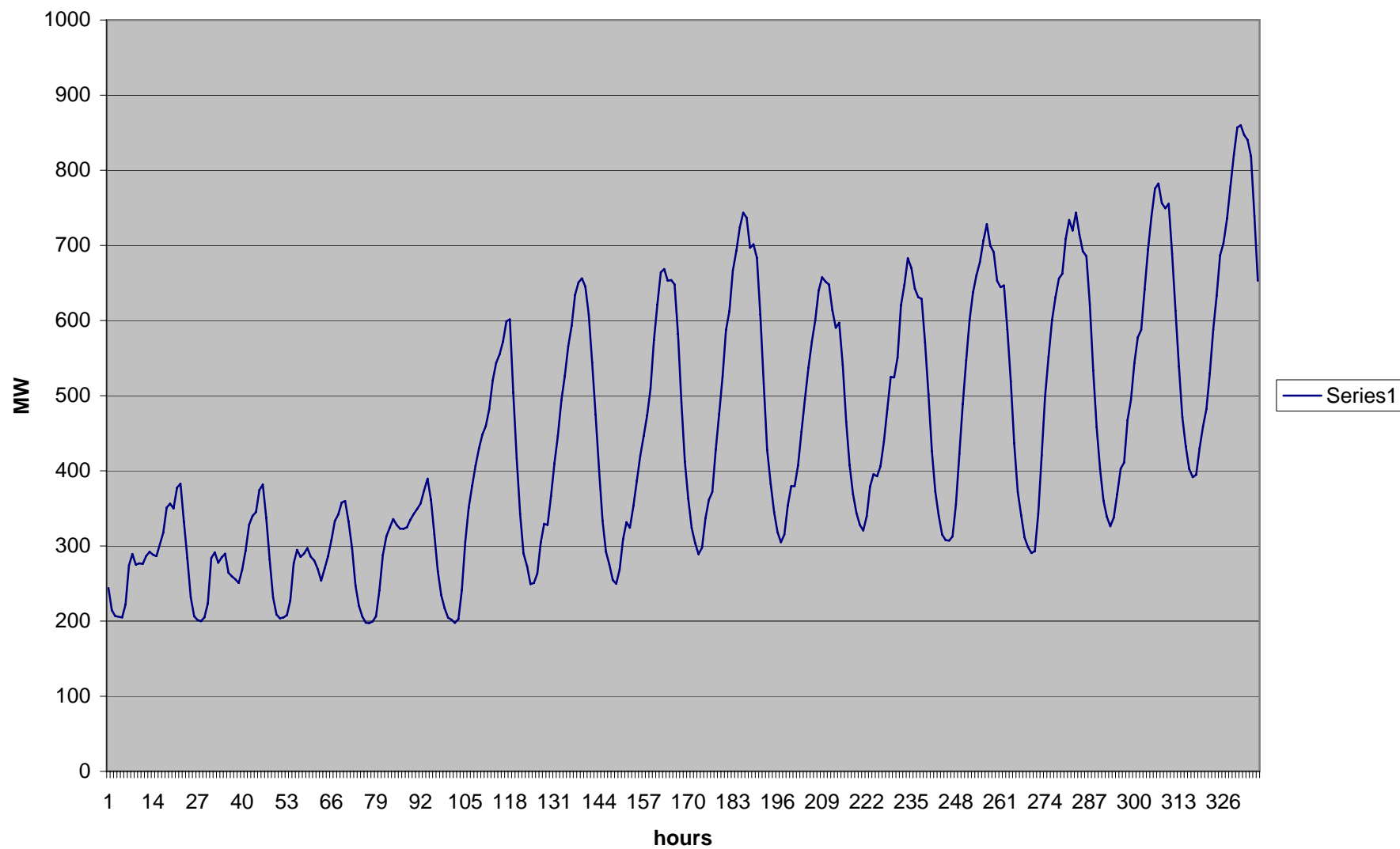
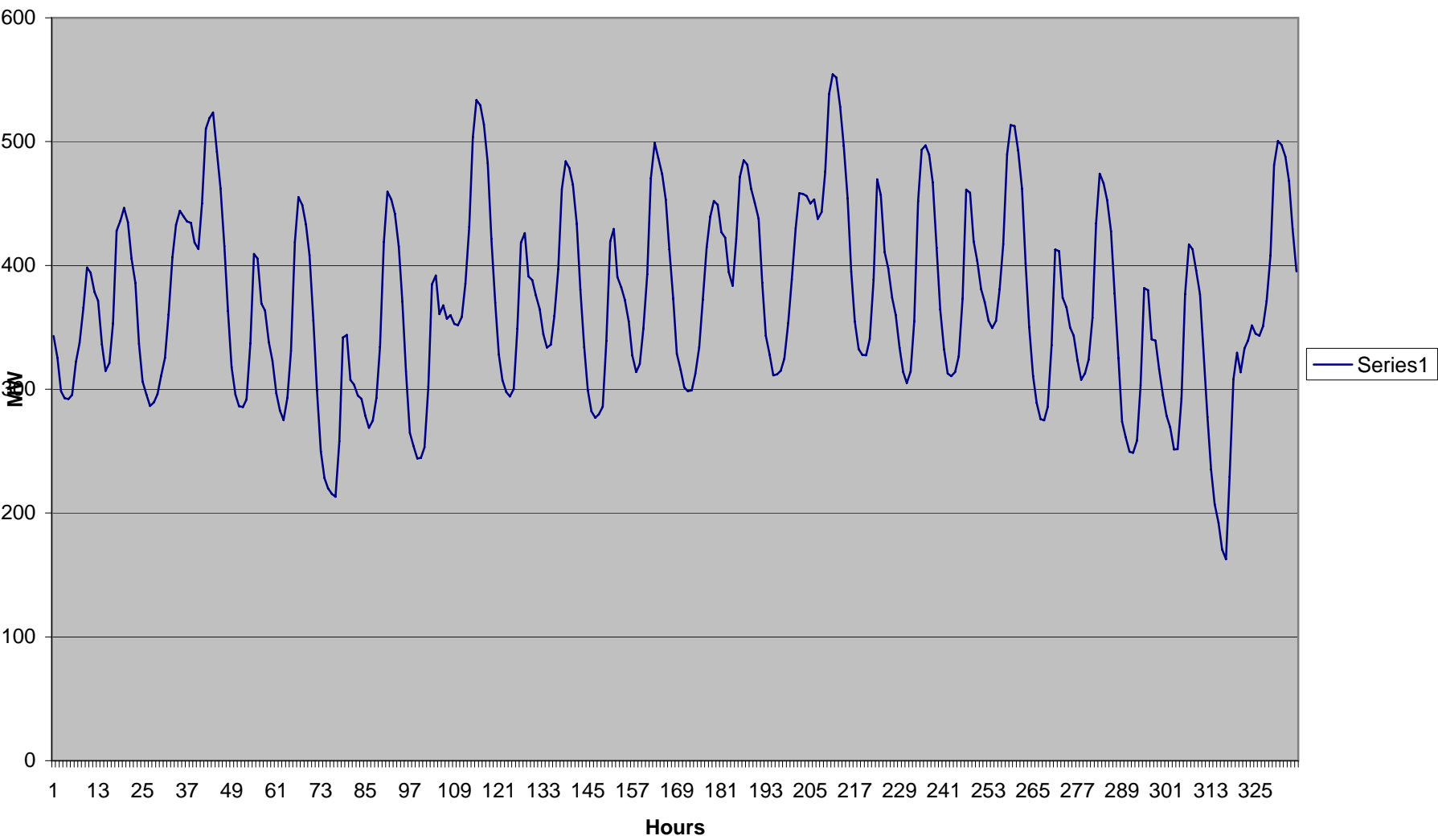


Figure 3 Del RCSI Load Jan1-Jan14 2005



Del RSCI Feb 1-14 2005

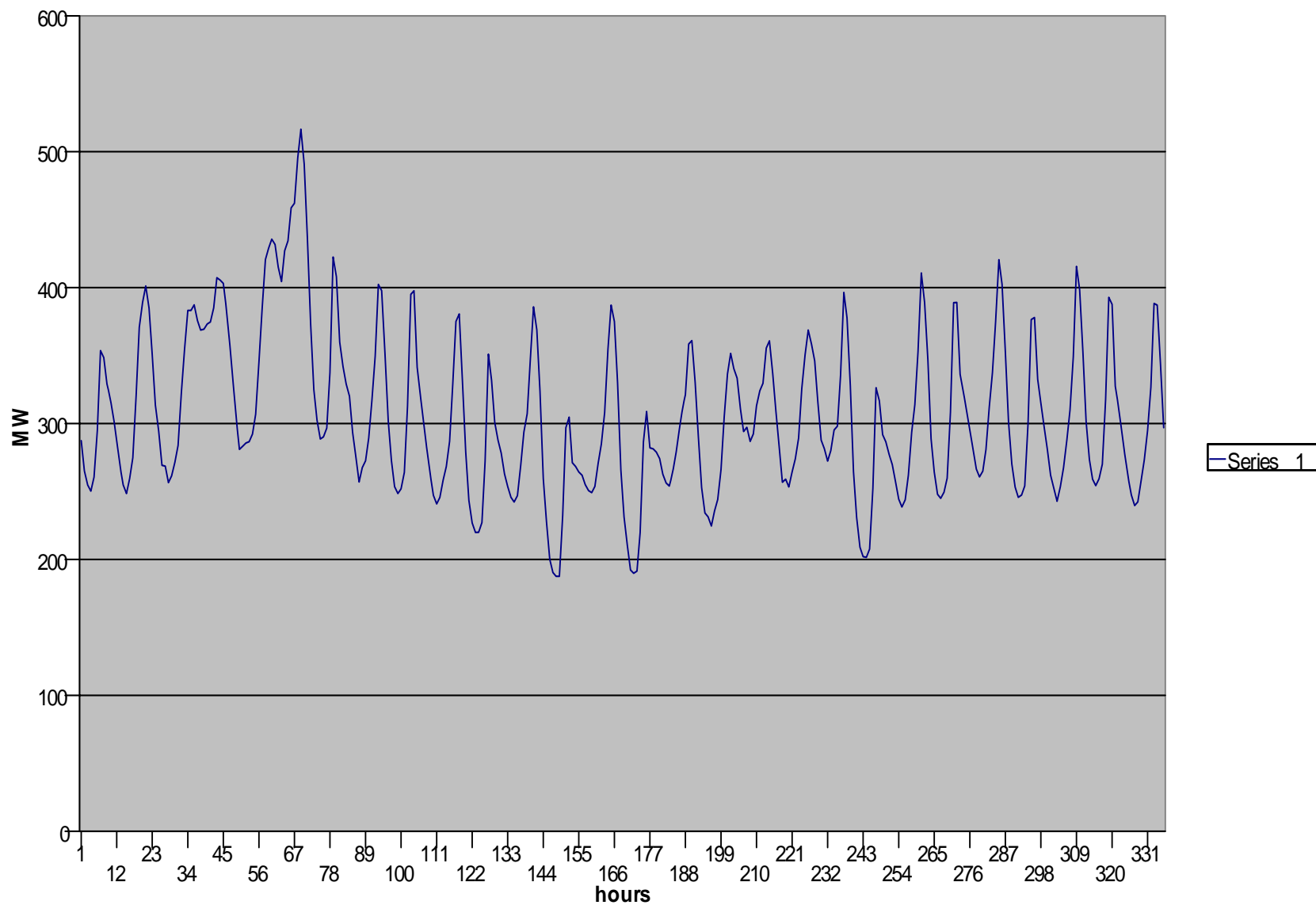


Figure 5 - Load Served by 200 MW Plant

Unit Availability	Generation annual output 200 MW	% of SOS mwh requirement served by 200 Mw		
		no migration	10% migration	20% migration
(col 1)	(col 2)	(col 3)	(col 4)	(col 5)
100%	1,752,000	49.12%	54.57%	61.39%
95%	1,664,400	46.66%	51.84%	58.32%
90%	1,576,800	44.20%	49.12%	55.26%
85%	1,489,200	41.75%	46.39%	52.19%
80%	1,401,600	39.29%	43.66%	49.12%

Based on annual RSCI requirement of 3,56,7091mwh (Oct 2004 -Sept 2005)



Introduction to the Integrated Planning Model (IPM®)

ICF Consulting

January 2006

Contents

Page

1 Introduction	1
2 Non-technical introduction to the IPM	2
3 Technical introduction to the IPM	6
3.1 Defining the Objective Function	6
3.2 Defining Additional Constraints	7

1 Introduction

ICF Consulting's principal modelling tool is our Integrated Planning Model (IPM[®]). This uses a linear programming formulation to select investment options and to dispatch generating and load management resources to meet overall electric demand today and on an ongoing basis over the chosen planning horizon. System dispatch - determining the proper and most efficient use of the existing and new resources available to utilities and their customers - is optimised given the security requirements, resource mix, unit operating characteristics, fuel and other costs including environmental costs, and transmission possibilities.

The IPM[®] is designed to replicate the operations of the actual power system about which one is concerned. It begins with an accurate engineering representation of every power plant, every transmission link, every fuel supply option available to the power system. This allows ICF to model the real-world physical characteristics of the power system. We can then overlay onto that any relevant economic and/or environmental constraints affecting power system operations. In this respect the end-result with the IPM[®] is a modelling framework that reflects how actual decisions are made by power system operators when subject to any slate of operational constraints, regardless of whether these constraints are physical, economic, or environmental.

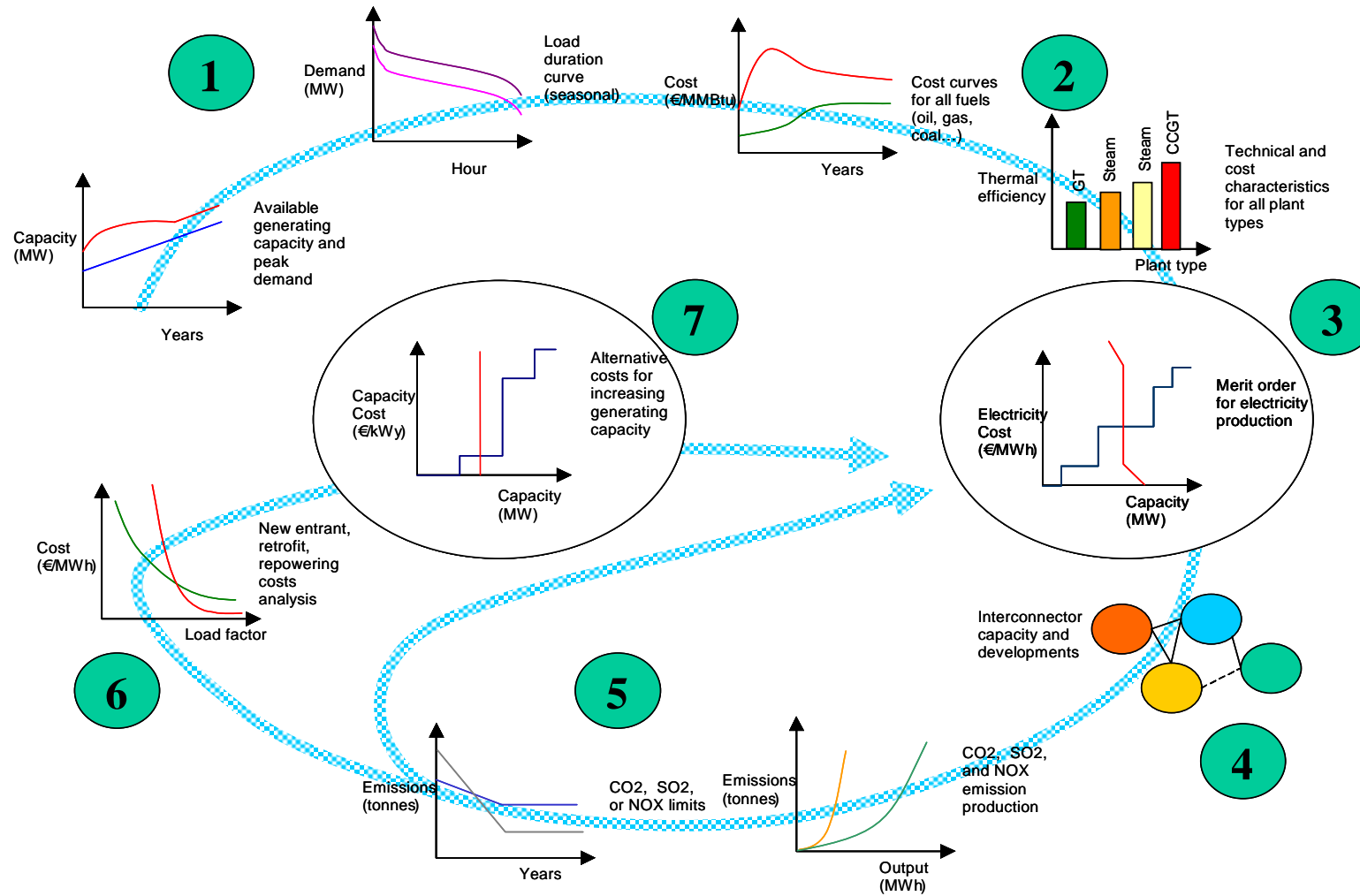
As a forward-looking model, the IPM[®] tackles the complex task of determining the most efficient capacity adjustment path. Because the model solves for all years simultaneously, it will select the most appropriate solution to ensure that system security is not compromised (e.g. build new baseload or peaking units, retrofit or repower existing units), select units that should be retired or mothballed, and identify the timing of such events. Electricity and capacity prices are one of the results from this optimisation process. Investment decisions are selected by the model by taking into account system security requirements, forecasts of customer demand for electricity, realisation of electricity prices across the year, the cost and performance characteristics of available options, technical characteristics of existing power plant units and a host of other factors. By using this degree of foresight, the model replicates the approach used by power plant developers, regulatory personnel, and energy users when reviewing investment options.

2 Non-technical introduction to the IPM

The IPM[®] is designed to replicate the operations of the actual power system about which one is concerned. The modelling framework includes an accurate engineering representation of all of the physical assets needed to create a power system, i.e., every powerplant, every transmission link, every fuel supply option available to the power system. By including the economic and environmental constraints facing system operators in the real world, the IPM[®] replicates how actual decisions are made by power system operators when subject to any slate of operational constraints, regardless of whether these constraints are physical, economic, or environmental.

Conceptually it is simpler to think of the model carrying out a series of discrete tasks. This is illustrated in Figure 1. Detailed information of existing generating capacity and the characteristics of demand (1) is required. The demand for electricity can be subdivided into two key components: hourly demand and total annual demand. The hourly demand, or load profile, is the demand for electrical energy on an hour-by-hour basis across the whole year. In addition to this demand being met, an adequate safety margin needs to be maintained in the form of non-generating capacity in case of any sudden failure in generating capacity. This capacity reserve margin is usually measured as a percentage of the highest demand in the year (peak demand).

When determining how to generate electricity to meet a certain level of demand at minimum cost, available power stations need to be ranked according to their generation-specific operating costs. These include fuel and operating and maintenance costs, for which one requires information on fuel options and prices as well as detailed information on the technical characteristics of existing power stations (2). The fuel cost, measured in € per unit of electricity delivered, takes into account the fuel price and the technology-specific fuel-to-electricity conversion factor (thermal efficiency). The IPM model sums these fuel costs and any adder for generation-specific operating and maintenance costs to define the hourly cost of generating a single unit of energy from each power station. Once these have been defined, the model dispatches as many resources as required. Notwithstanding other constraints as detailed below, the lowest cost resources are dispatched first (3).

Figure 1: IPM[®] Modelling Concept

There are two other factors indicated in Figure 1 that can have a major impact on the order in which power stations will be dispatched. The first refers to network constraints (4). Electricity travels from power stations to consumers via high and low voltage transmission and distribution networks. Due to constraints and bottlenecks in this network, the most cost-effective solution to meeting a certain electrical load may in fact not be technically feasible. Despite the robustness incorporated into a lot of electrical equipment, there are a number of events that must be avoided. In order to limit the possibility of damaging sensitive equipment, more expensive electricity from a power station that has an unhindered access to consumers may be requested instead of cheaper power at the wrong side of a bottleneck.

The relative cost of production of different power stations can also be affected by the application of environmental constraints (5). If a power station has to pay for emissions of carbon dioxide by having to purchase emission allowances, this additional cost must be added to the cost of production estimate. The IPM has an advanced capability to take these types of constraints into account whether these are defined in terms of allowance prices (measured in € per tonne of pollutant emitted) or emission limits (measured as weight limits or rate caps).

In summary, the IPM takes the thermal efficiency, fuel price, variable operating and maintenance adder and consideration for emissions or inter-regional transmission constraints to define the order in which power stations are dispatched to meet a certain demand for electricity in the cheapest way possible (loop back to 3).

Demand for electricity varies by time of day and across the days of the week in the manner defined by the load profile. In any single hour the market clears at the point where supply meets the demand. This indicates which group of power stations will be dispatched to meet the required demand. The hourly cost of generation, measured in € per unit of energy delivered, of the most expensive power station dispatched is identified as the marginal electricity price. The IPM will determine the market clearing point for all hours of the year. Results of this optimisation will include market prices across the year, generation levels for different power stations, and the amount of fuel that they consume.

This provides a solution for a single year. Given that the problem extends across years, during which demand grows (6), new power stations must be built. The IPM replicates the approach used by power plant developers, regulatory personnel, and energy users when reviewing investment options. In order to forecast demand for different fuels in a consistent manner, a full assessment is required of future requirements of the electricity supply industry, decisions regarding the building and/or retirement power stations, and future dispatch patterns. The IPM achieves this by taking into account several additional pieces of information. First, the growth in electricity demand from year to year, and, second, the reserve margin defining the requirement for back-up reserve capacity in the hours of highest demand across all years.

To define the supply side of the problem, the contribution of existing and future power stations to this reserve margin must be defined. The reserve margin contribution of a power station is its capacity that can be reliably called upon in the hours of highest demand. If, as in the example of a wind turbine, we cannot be sure of its output in the peak, we can adjust our estimate of its useable capacity downwards to reflect its unreliability. This adjustment can also be used to differentiate the risk of a failure from, for example, fuel supply disruptions or technical malfunctions. If the reserve margin contribution of existing plants is low, more power stations will need to remain on stand-

by in case their output is required. The model ensures that this adequate reserve margin is maintained by delaying the retirement any existing power stations and/or choosing to build new technologies to make up any shortfall from existing capacity.

For these decisions to be made, and in addition to fuel costs and generation-specific details, the IPM also requires information on the fixed or non-generation specific operating and maintenance costs of existing and new technologies. An existing power station that cannot recover its fixed costs of operation on an ongoing basis will be closed. However, the IPM will assess this closure option against the possibility that it may be cheaper to extend the life of this costly existing unit than to build a replacement power plant. By defining the technical characteristics, fuel options and financing costs for all new build possibilities under consideration, the IPM can assess which combination of retirement and new build options will result in the lowest possible generation and capital expenditure profile over time. In fact, the formula that defines the net present value of the sum of all these costs is known as the “objective function” which the linear programme sitting inside the IPM seeks to minimise (see below).

Each step in the capacity supply curve shown in (7) represents the minimum annual capacity premium that a power station is required to receive so that it can (i) continue in operation in the case of existing units, or (ii) be built in the case of a new build option. The premium is calculated as the difference between annual fixed costs (including fixed operation and maintenance plus repayment on capital investments) and the expected profit stream (or margin) made from the sale of electricity. The latter requires the IPM to make an informed decision about future dispatch and remuneration to all options, highlighting the interdependency of electricity dispatch and capacity expansion decisions.

3 Technical introduction to the IPM

It is important to recognise that the above description of the IPM modelling process is intended to illustrate its main features as if it were using some form of stepwise logic. This is not actually the way the model works. The IPM takes into account the interdependence between security and electricity components in a simultaneously manner and does so in a way that minimises the future stream of generation and capital investment. To achieve this, the IPM uses a linear programming formulation. This section caters for the technically literate reader who wants to learn about the IPM's internal logic from this perspective.

3.1 Defining the Objective Function

The objective function is defined as the present value of the sum of capacity constraints, dispatch constraints, and un-served energy. Additionally, many other constraints can be considered. A brief discussion of the key objective function elements is provided below. Even here this discussion provides only an elementary overview and does not touch on any of the more complex analysis capabilities such as ancillary service markets, power purchase and sales contracts, emission trading, demand-side management programs, advanced fuel availability issues such as fuel supply curves, industrial boiler and district heating operation, etc.

Capacity Cost Variables

There are variables in the objective function to represent each existing generating unit, those for potential retrofitting, re-powering or modernising, and possible expansion. A separate capacity variable is defined for each run-year that the plant is available. The objective function coefficient for plant capacity variables is the present value of the total annualised capital cost during the entire book-life of the power plant (or up to the end of the time horizon) plus the present value of fixed operation and maintenance costs from the entire lifetime of the plant (or up to the end of the time horizon). For potential construction options, the capital charge rate is used to annualise capital costs.

For existing plants, the capacity variable coefficient in the objective function is calculated as the present value of fixed operation and maintenance costs only. The capital charge rate is used to annualise capital investment costs. The latter is calculated as a function of the book-life of a power plant, the discount rate, a weighted average of the cost of capital (which depends on capital structure of the investment), as well as potential other factors such as taxes. CAP_ESC and FOM_ESC can be specified by the user of the IPM® to account for assumed real escalation in capital and fixed O&M costs over time.

Bounds are set on the variables representing existing plants to constrain capacity to the values specified in the input data set. These bounds are used to introduce to the model pre-determined capacity retirement schedules (although the model will optimise retirement schedules). For potential plants, bounds can be set to force new builds to pre-specified lower and/or upper limits, or alternatively be left unbounded.

Dispatch Cost Variables

The dispatch costs of generating electricity are also specified in the objective function. For a given plant, separate dispatch variables are defined for each fuel type a plant

can use, each season, each load duration curve segment, and for each run-year. (The development and use of load duration curve segments is discussed below under generation requirements.) The dispatch costs of generating electricity are defined as the sum across all units of the present value of variable operation and maintenance costs and the present value of fuel costs over all calendar years mapped to a representative run-year.

Rather than including every calendar year from the planning horizon as a “run-year”, an IPM[®] user can specify that a given run-year is to be used to represent multiple calendar years to reduce the solution time. For example, the user may specify that the year 2010 be used to represent the calendar years from 2010 to 2015. In this case, the objective function coefficient for the dispatch variable representing a plant whose lifetime spanned the entire period from 2010 to 2015 would be the sum of the present value of operation and maintenance and fuel costs for these five years. Thus, in equation 2, the discounted O&M and fuel costs are summed over years 1 to n, where n is the number of calendar years mapped to this run-year.

Fuel costs for a given plant are calculated as a function of fuel prices defined by the user in cents per unit of energy, plant heat rates expressed in BTu's per kWh, and the number of hours in each load segment.

Un-served Energy Cost Variables

The implicit assumption in most dispatch modelling is that the energy must be delivered at all costs. This assumption can be varied. Un-served energy variables are created for each load segment, season, and year. The user can specify the cost per unit of energy for these un-served energy variables. For most purposes, however, we do not allow for involuntary load shedding (e.g. rolling blackouts).

3.2 Defining Additional Constraints

Additional constraints can include limiting or minimum requirements that affect both demand and supply sides of the power market. It is these constraints that the IPM[®] will seek to satisfy choosing a solution that minimises the present value of total capital and generating costs. The model allows for any constraint to be defined at the unit, plant or region, national and international level or aggregation allowing for overlapping operational and regulatory limitations. The constraints that may be specified include following:

- ❑ **Capacity balance:** The purpose of this constraint is to limit the dispatch of a plant to be less than or equal to the available capacity of that plant. For each plant, a capacity balance is defined for each season and run-year.

Peak requirements: The peak requirement constraints ensure that the generation capacity is greater than or equal to the peak load, including the specified reserve margin percentage. For this purpose every power unit has a defined reserve margin capacity contribution factor¹.

¹ The reserve margin contribution for a plant designates the proportion of total installed capacity that will be available to meet the peak load. Thermal units are allocated higher capacity reserve contribution factors than hydro and renewable generation.

If a multi-regional joint reserve margin is specified, the peak load is defined as the coincident multi-regional peak, and reserve margin capacity is a sum of all resources in the regions. For a case with individual regional reserve margins, the peak load is defined as the maximum regional load, and reserve margin capacity corresponds only to those units in the region.

- ❑ **Generation requirements:** In the IPM[®], hourly electric load projections for each season and year are sorted from highest to lowest to form a load duration curve. Each seasonal load duration curve is cut into vertical segments and the average load is calculated for each segment. Separate generation requirement constraints are specified for each load duration curve segment in each season and year. These constraints ensure that the amount of energy generated is equal to the demand for each segment of the load duration curve. The number of segments and number of seasons are user-defined inputs.

Environmental constraints: One of the major areas of analysis that the IPM[®] is extensively used for in the US and Europe is the analysis of various aspects of environmental policy. The IPM[®] has very sophisticated capabilities for environmental analysis (for example, banking and borrowing of emission allowances between different years of the planning horizon, meeting minimum renewable supply obligations). Numerous environmental constraints can be defined for different groups of power plants. It is possible to constrain the total amount of emission in a year (or season), or a specific average rate of emission.

- ❑ **Renewable obligations:** Where minimum renewable supply obligations are defined, the model will select the appropriate power plant (mini hydro, wind and/or biomass) to satisfy this requirement at minimum cost. This constraint ensures that the amount of energy generated from this sub-set of generation sources is equal to the specified renewable obligation or target.
- ❑ **Plant operation limitations:** Operating constraints such as minimum run levels and maintenance periods can be captured on a generator-by-generator level.
- ❑ **Fuel use requirements:** Limitations on fuel availability to individual units can be captured seasonally and the effect of take-or-pay requirements on the fuel supply contracts (especially natural gas) can be modelled directly by defining minimum annual supply levels. Where applicable, the user can specify more than one fuel to individual generating units. The decision as to what is the optimal fuel mix can be left to the model. Environmental and cost considerations will be internalised automatically.
- ❑ **Hydro generation:** Flexible hydro generation options exist to capture optimal use of storage capacity. Annual or seasonal aggregate production limits are specified and the model treats run-of-river baseload production separately from peak-shaving pondage production. Whilst in engineering terms the short-run operational cost of hydro units is very low, because it uses a linear programming solver, the IPM[®] measures its value according to the opportunity costs of that hydro production. Therefore, for example, even in hydro dominated systems such as Scandinavia, the IPM[®] has no trouble identifying the optimal set of market prices.

- ❑ **Pump storage balancing:** By defining pumping efficiency and reservoir capacity, the model will determine the optimal pumping and generating operating cycle based on the price differential between peak and off-peak prices in order to maximise the value of the pumping units.
- ❑ **Operating reserves:** The value of operating reserves and optimal units used to maintain efficient operating reserves are easily captured. The model allows for three types of reserve markets/services to be explicitly modelled.

**DELMARVA POWER & LIGHT COMPANY'S
COMMENTS ON THE INDEPENDENT CONSULTANT'S REPORT
(Comments Filed October 3, 2006)**

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing application was emailed, faxed, hand delivered or mailed, first class postage prepaid, to the Staff, the Office of Management and Budget, the Controller General, the Energy Office, and, the service list for this docket on this 3rd day of October, 2006.

A handwritten signature in black ink, appearing to read 'Anthony C. Wilson', is written over a horizontal line.

Anthony C. Wilson
Counsel, Delmarva Power & Light Company